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ASTRONOMICAL OBSERVATIONS

MADE AT THE

U. S. NAVAL OBSERVATORY,

DURING

THE YEARS 1851 AND 1852.

PUBLISHED BY AUTHORITY FROM

THE HON. SECRETARY OF THE NAVY.

PREPARED FOR PUBLICATION UNDER DIRECTION OF

CAPTAIN J. M. GILLISS, U. S. N., SUPERINTENDENT.

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PREFACE.

The observations contained in this volume constitute a part of those accumulated at the Naval Observatory between the years 1850 and 1861, exclusively. Only a small portion of them had ever been copied from the note-books.

As they could not be prepared for the press by the assistants of the Observatory, unless the reduction of current observations was abandoned, the government authorized them to be placed in the hands of a competent astronomer, not connected with the establishment.

Copyists were engaged in the summer of 1861. Under the immediate supervision of Mr. James Ferguson, Assistant Astronomer, they carefully made transcripts from the note-books, which copies were subsequently collated with the originals by two persons. But, in the absence of all who made observations with the Transit Instrument, the Mural and Meridian Circles, during 1851, 1852, no care copyists could bestow can compensate for a deficiency of data and notes necessary to a proper discussion of the results; and in many instances, unfortunately, these requisites are found to be very meagre.

The manuscript sheets, and all accessible information relative thereto, were then placed in the hands of Dr. B. A. Gould. He has incorporated the data at command for determining errors of instrumental adjustment, clock, etc., in the pages detailing his processes of reduction; and being an astronomer whose abilities are universally recognized and as favorably appreciated, we may have every confidence that he has spared no effort to obtain the best results which the materials afford.

U. S. Naval Observatory, November, 1862.

INTRODUCTION.

In August, 1842, a law was enacted authorizing the erection of a "Depot of Charts and Instruments," and the building was completed in September, 1844. In December of 1854 the Hon. Secretary of the Navy directed that it should thereafter be styled "The U. S. Naval Observatory and Hydrographical Office."

The enacting law authorized the President of the United States to locate the building upon any public ground within the District of Columbia not otherwise in use; and the site assigned by him is the square originally designed in the plan of the city of Washington for a National University. It is on the north bank of the river Potomac, in the southwestern part of the city, and contains about seventeen acres. It is enclosed on the east, south, and west sides by a brick wall, and on the north by a picket fence.

The Observatory buildings consist of a central edifice fifty feet square, with wings to the east, west, and south. The central building is two stories and a basement high, with a parapet and balustrade of wood around the top, and is surmounted by a revolving dome twenty-three feet in diameter, which rests on a circular wall that is built to a height of seven feet above the highest part of the roof.

The east and west wings are each twenty-six feet six inches long, twenty-one feet wide, and eighteen feet high. The south wing is separated from the main building by a passage-way ten feet square. It is twenty-one feet long and of the same breadth and height as the other wings. For the accommodation of a circle in the Prime Vertical, this wing was, in 1846, extended twenty feet, the width and height of the new being the same as those of the old portion. The circles of the instrument ordered for it having been injured,* it was returned to the makers in 1847, but was not remounted after its second arrival in Washington.

During the year 1847, a dwelling for the Superintendent was erected immediately east of the Observatory; and in the following year the east wing was extended twenty-four feet, so as to connect it with the former building. The room thus added was used for the chronometers, and other instruments and charts belonging to the navy.

From a calculation of the observations made during the years 1845, 1846, the latitude of the Observatory is

$$+ 38° 53' 39''.25$$

which has been used by Dr. Gould in the reduction of the observations of this volume.

The longitude assumed in 1845 as the best determination known at the time was $5^h\ 8^m\ 14^s.64$ west from Greenwich. This was used in the reduction of observations for 1848.† No mention is made of the longitude adopted for the computations of 1849, 1850. In those of the present volume, Dr. Gould has adopted

$$5^h\ 8^m\ 11^s.2 \text{ west.}$$

There are four rooms on each floor of the central building. One was occupied as a library room and office for the Superintendent; two were filled with charts for distribution to ships of the navy; and the remainder on the first and second floors were assigned to the assistants.

A standard clock by Kessels is mounted in the office of the Superintendent.

One room of the basement has been fitted as a workshop for the machinist; instruments returned from ships and needing repairs were temporarily placed in another; and the remaining two were used for store-rooms. All of them, together with the separating halls, are heated by iron pipes through which hot water circulates from a boiler under the residence of the Superintendent.

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* Introduction, Vol. III. p. ii.

† Introduction, Vol. IV. p. v.

The Meridian Transit Instrument is in the west wing. It has an object glass of 5.3 inches diameter, with a focal length of 86 inches, and an axis 42 inches long between the bearing points of its pivots. It was made by Ertel and Son of Munich, and is mounted on monoliths of granite split from the same block, and which are wholly isolated from the floors and building.

There are two clocks in this room. One was made by Parkinson and Frodsham for the old Naval Observatory, and is secured by wood clamps to a granite pier south and east of the Transit Instrument. The other was designed by Dr. Locke, made by Messrs. Howard and Davis, and put up in 1850. It is secured to the west face of the pier originally erected for the Mural Circle, and is described in the volume for 1846. Sometimes one and sometimes the other of these time-keepers has been used for the observations, but in either case the instants of transit were recorded upon a Morse fillet by means of wires and a galvanic battery.

The Mural Circle is in the east wing. It is 5 feet in diameter, and is mounted upon the east face of a sandstone pier. It has a conical axis 3 feet long, with friction rollers under the eastern end, connected with rods which pass between the circle and face of the pier, and thence over the top to counterpoises within a cavity of the pier.

The circle and radial bars, twelve in number, are part of the same casting. The latter are strengthened on their backs by edge-bars, and are united midway by a second concentric circle. It is divided into 5′ spaces upon a band of gold inlaid upon the rim perpendicular to its plane, and into 1° spaces upon a platina band near the gold one. Each of the latter is numbered. The reading is by six equidistant microscopes secured to the face of the pier, and illuminated through apertures in the same from a gas lamp to the west of it.

The telescope is a cylinder, secured to the circle both at the centre and at the extremities. Its object-glass is 4 inches in diameter, and 5 feet focal length. Troughton and Simms were the makers.

In the same room, and east of the Mural Circle, is the Meridian Circle. Its circles are 30 inches in diameter, and one of them is divided on the face into arcs of 3′ each by heavy lines cut in silver. The subdivision is effected by means of four micrometer microscopes, each of which reads to single seconds. The other circle is divided into 15′ spaces, and is used as a finder. The telescope has an object-glass with a clear aperture of 4.5 inches, and focal length of 58.2 inches. Its axis between the circles is 3 feet long, and its pivots 2 inches in diameter. The instrument is represented Plates VII. and VIII., Vol. I., and a more circumstantial account of it will be found in the Introduction to Vol. II. p. XXXVII. Dr. Gould has given in detail the observations to determine the intervals of the wires, instrumental errors, etc.

The clock in this room is placed south of, and equidistant from, the two circles. It was made by Mr. Charles Frodsham, and is similar in construction to that of the west wing. But instead of the single knife-edge, its pendulum index carries a small crutch with two knife-edges, which at each vibration impinge simultaneously upon globules of mercury in separate receptacles of a bracket, whereby the galvanic circuit is closed without passing it through the pendulum. The clock and Morse fillet of the west wing were generally used for the observations, and the Charles Frodsham clock only when the recording apparatus was deranged. These occasions are stated in the notes.

The barometer is Newman No. 75. Its tube has a diameter of 0.582 inches. It is secured to the back of the clock pier.

The thermometer used was that which is designated as No. 2 in the Appendix of the Washington Observations, Vol. I. pp. 45, 46, where the necessary corrections of its scale are shown to be as follows: —

CORRECTIONS TO SCALE READINGS OF THERMOMETER NO. 2.

Therm. Scale.	No. 2.	Therm. Scale.	No. 2.	Therm. Scale.	No. 2.
°	°	°	°	°	°
5	− 0.21	48	+ 0.12	76	+ 0.09
10	.22	50	.13	78	.08
15	.17	52	.12	80	.06
20	.11	54	.11	82	.05
25	.06	56	.11	84	.03
30	− .02	58	.10	86	+ .02
32	.00	60	.10	88	− .01
34	+ .02	62	.10	90	.03
36	.04	64	.09	92	.03
38	.06	66	.09	94	.04
40	.08	68	.10	96	.04
42	.09	70	.12	98	.05
44	.10	72	.11	100	− 0.06
46	+ 0.11	74	+ 0.10		

The other room of the east wing was devoted to the storage of charts, arranged for distribution, and the chronometers of the navy. The clock used for rating the latter was made by Parkinson and Frodsham, and is similar in construction to the one made by them, which is in the west wing. It is mounted upon a granite pier in the southwest corner of the room, and performs extremely well.

The Transit in the prime vertical is in the north room of the south wing. The telescope has an aperture of 4.85 inches, and focal length of 78.0 inches. It is attached to one extremity of an axis 42 inches long, the other extremity carrying a counterpoise. The pivots of the axis are of fine steel, 3.5 inches in diameter, and are hollow. The telescope and its counterpoise are outside of the supporting pier, but their weights are transferred to the bearing points of the Y's by levers and other counterpoises within the pivots and axis. Its pier is a wide monolith, whose central portion has been cut out for the accommodation of a reversing apparatus of special construction. The instrument was not used during either of these years. The clock was made by Charles Frodsham, and is mounted against a granite pier, east of the prime vertical transit instrument. Instead of glass, it has a steel cylinder for the mercury of its pendulum, and the pendulum-rod screws into a cap covering the upper part of it. The pendulum index has a single knife-edge, like the clock of the west wing.

The other room of the south wing was mainly used for storage purposes.

The Equatorial Instrument under the dome is mounted upon a massive granite pedestal, which rests upon a hollow conical pier whose foundation is 9 feet below the ground line. The instrument was made by Messrs. Merz and Mahler, with an object-glass 9.6 inches in diameter, and focal length of 14 feet 3 inches. The finder has an object-glass of 2.6 inches diameter, and focal length of 32 inches. The hour and declination circles are respectively 15 inches and 21 inches in diameter. The telescope may be kept in motion by clock-work, regulated by a Fraunhofer centrifugal pendulum, and differential measures are made with a micrometer of the usual construction. The instants of observation were sometimes recorded upon the Morse fillet of the west wing, and sometimes by eye and ear, with the aid of a chronometer, when the former was not in working order. The notes show the method used.

A comet-seeker, made by Merz and Mahler, stands within the rotunda when not in use. It has an object-glass of 3.9 inches aperture, and 32 inches focal length, and eye-pieces with magnifying powers ranging from twelve to fifty times. It is equatorially mounted upon a shaft of brass, supported upon a tripod having the ordinary adjusting-screws, and has hour and declination circles, each of 5 inches diameter. The divisions of these circles are read by opposite verniers each to 1′. Its telescope tube is of deal, with a veneering of mahogany, and is accurately balanced in every position.

There are substantial supports outside the rotunda, from one or the other of which all portions of the heavens may be seen, and a level platform covers the roof of the building for the greater convenience of the observer with the comet-seeker.

For the purpose of giving correct time to the city, a staff has been placed on the top of the dome, and a large, but light ball, which was hoisted at ten minutes before 12 o'clock of each day, except Sunday, was dropped precisely at mean noon.

For a more detailed account of the buildings and instruments, see "Report on the Plan and Construction of the Dépôt of Charts and Instruments, etc., Washington, 1845," and "Astronomical Observations made during the Year 1845 at the National Observatory, Washington, 1846."

The Naval Observatory and Hydrographical Office was under the general superintendence of the Bureau of Ordnance and Hydrography, of which Commodore Lewis Warrington was the chief until November, 1851, and Commodore Charles Morris after that date.

The records of the office show that the following officers were on duty in connection with it during the periods specified in the table.

TERMS OF SERVICE OF OFFICERS DURING 1851, 1852.

Name.	Year.	Months.	Days.	Name.	Year.	Months.	Days.
Lieutenant George Minor		1	28	Lieutenant H. N. Harrison		1	0
" B. M. Dove	1	0	17	" W. Ross Gardner	1	9	25
" Henry Walke			12	" John Contee	1	0	22
" D. B. Ridgely		5	14	" James D. Johnston		11	16
" William T. Muse		4	11	" Isaac N. Brown			11
" Charles Steedman		10	27	" John L. Worden	1	2	17
" Richard Forrest	1	9	13	" Charles E. Fleming		1	8
" William H. Ball		10	7	" John Q. Adams			5
" J. Humphreys		3	20	" W. C. B. S. Porter		10	6
" O. H. Berryman		11	6	" Van R. Morgan	1	3	29

TERMS OF SERVICE OF OFFICERS DURING 1851, 1852. — Continued.

Name		Year.	Months.	Days.	Name.		Year.	Months.	Days.
Lieutenant	E. L. Winder		1	2	P. Midship'n	John J. Hanson		10	9
"	George B. Balch	1	1	17	"	W. D. Whiting		2	0
"	J. S. Kennard	1	2	18	"	T. L. Walker	1	0	20
"	J. M. B. Clitz		1	26	"	John M. Brooke		3	18
"	J. C. Beaumont		3	9	"	O. C. Badger		1	9
"	W. B. Fitzgerald		8	23	"	R. D. Minor		8	1
P. Midship'n	R. Aulick		3	25	"	N. H. Van Zandt		9	1
"	George P. Welsh	1	1	4	"	William M. Gamble		9	16
"	A. F. Warley		4	18	"	T. S. Fillebrown		9	17
"	Colville Terrett	1	1	10	"	Dawson Phenix		2	6
"	C. H. Wells		6	19	"	R. F. R. Lewis		8	19
"	J. H. Carter		5	12	"	A. W. Johnson		1	13
"	A. C. Jackson	1	0	21		Total	29	4	27

The aggregate of the several terms of service of the above officers at the Observatory is equivalent to the constant employment of more than fourteen assistants during the whole period. As appears from the initials of their names on the pages of the Meteorological Journal, a part of these officers were required to make meteorological observations. The records do not show in what manner the others were employed, but it is believed that at least three of them were charged with the care and distribution of the instruments and charts for the naval service, and the remainder upon investigations for the "Wind and Current Charts."

The table does not embrace the names of the professors and others charged with the astronomical observations, and these are given in connection with the instruments to which they were severally assigned.

The manuscript volumes of correspondence and accounts attest the industry and ability of the clerk, Mr. Thomas Harrison.

Mr. William R. Greble was the machinist during those two years.

J. M. GILLISS, *Superintendent.*

November 1862.

THE TRANSIT INSTRUMENT.

This instrument is described in former volumes. During the year 1851, the observations with it were made by Professors Beecher, Keith, and Lawrence. In 1852, the observers were Professors Keith and Lawrence, and the initials are uniformly appended to the printed record.

In the reductions of previous years, a personal equation between Professors Beecher and Keith was introduced into the results, the value used being $K - B = +0^s.36$. But although the determination was derived from observations specially made for the purpose, the current series do not seem to authorize so large a correction, and it has not been employed in the present reductions. It is believed, however, that the accuracy of the results has not been in any way impaired by the omission.

ERRORS OF LEVEL AND COLLIMATION.

1851.

Excepting from November 7 to November 22, the instrument was used with the clamp west. Reversals for determining the collimation were made, as will be seen in the following table, on two occasions only, viz., January 23 and November 22. Readings of the level, or examination to determine the value of the micrometer-screw, do not appear to have been made.

Month and Day, 1851.	Position of Clamp.	Image West.	Month and Day, 1851.	Position of Clamp.	Image West.
		r.			*r.*
January 7	W.	0.190	March 25	W.	0.230
" 16	W.	0.300	" 28	W.	0.190
" 23	W.	0.260	April 3	W.	0.250
" 23	E.	0.317	" 9	W.	0.120
" 24	W.	0.233	May 6	W.	0.270
February 22	W.	0.230	November 14	E.	0.142
" 25	W.	0.233	" 22	E.	0.140
March 11	W.	0.250	" 22	W.	0.213

Adopting the value of one revolution of the screw used in previous volumes as $1^s.59$, and one half the excess of the diameter of the clamp-pivot $p - 0^s.025$, we find for the two occasions on which observations for collimation were made the resulting values: —

	c	b	$c - \kappa$
1851, Jan. 23,	+0.048	+0.229	+0.032
Nov. 22,	—0.004	+0.141	—0.020

in which c represents the amount by which the angle between the line of vision and the clamp end of the axis exceeds 90°; b, the elevation of the westerly end of the axis, and κ the diurnal aberration. A scrutiny of sundry observations of circumpolar stars made during the year led to the adoption of the following values of c (for upper culminations): —

From Jan. 1 to May 6	. . . . .	$c = +0^s.03$
" May 6 " Oct. 1	. . . . .	$c = 0.00$
" Oct. 1 " Dec. 31	. . . . .	$c = -0.02$

With these values, b was computed for each of the nadir observations, and was used as follows: —

From	Jan. 1	to	Feb. 25	. . . . . $b = +$ 0.235 s.
"	Feb. 26	"	May 7	. . . . . $b = +$ 0.205
"	Nov. 7	"	Dec. 31	. . . . . $b = +$ 0.138

Between May 7 and November 7, the level error was not employed in the reductions, but was merged with the other errors in the determination of m and n.

1852.

The same remarks respecting level readings and want of data for the value of the micrometer-screw revolution are applicable as in 1851. The observations with the collimating eye-piece were as follows: —

Month and Day, 1852.	Position of Clamp.	Position of Image.	Month and Day, 1852.	Position of Clamp.	Position of Image.
January 16	W.	0. 242 W.	April 17	W.	1 317 E.
" 27	W.	0. 467 W.	" 24*	W.	1. 200 E.
February 3	W.	0. 417 W.	" 24	E.	0. 400 W.
" 7	W.	0. 468 W.	" 24	W.	0. 220 W.
" 9	W.	0. 345 W.	May 5	W.	0. 153 W.
March 1	W.	0. 427 W.	" 5	E.	0. 587 W.
" 3	W.	0. 400 W.	" 13	W.	0. 110 W.
April 13	W.	1. 283 E.	" 13	E.	0. 453 W.
" 13	E.	1. 683 W.	June 5	W.	0. 192 W.
" 15	W.	1. 486 E.			

It will be seen that we have the means of determining the collimation error on four dates within the period of a month.

Using the value of a micrometer revolution and excess of the radius of the clamp-pivot already cited, we obtain for the values of the collimation and level errors,

	c	b
1852, April 13,	+1.204	+0.159
" 24,	+0.099	+0.246
May 5,	+0.197	+0.294
" 13,	+0.161	+0.224

These determinations are all subsequent to the insertion of a new diaphragm on March 10, the one previously employed being the same which was used during 1851.

The introduction of a somewhat larger negative value for the collimation than was used during the last months of 1851 seemed indicated by the observations prior to the change of the diaphragm; and an attempt to deduce it by the method of least squares led to the adoption of the value $c = -0^s.080$, from January 1 to March 10. In the absence of other indications, the value given by the observation of April 13 was employed from the date of the change (March 10) until the readjustment, April 24; and during the remainder of the year the mean of the three other determinations was adopted.

The values of b_0 were so untrustworthy that their employment was entirely dispensed with, and the corrections for the vertical and azimuthal errors of the axis were implicitly determined only in so far as they are contained in the quantities m and n.

* After this observation, the instrument was adjusted for collimation.

ERRORS OF AZIMUTH, CLOCK, &c.

Observations upon any star within less than 38° of the pole were made on less than two fifths of the nights, and on most of the remaining dates all the observed stars were south of the zenith. A glance at the pages will show to the astronomer what degree of accuracy is attainable in the determination of the quantities *m* and *n* during a large proportion of the time. It has been found best to divide each year into six periods, during which these quantities shall be regarded as constant, and to discuss all the observations adapted to the purpose, within the several periods. The values used are given at the foot of each page.

When more than one fundamental star was observed, the clock correction was determined by weights, and its rate in difficult cases was obtained by graphical methods.

INTERVALS OF THE WIRES.

The intervals of the diaphragm used throughout the year 1851, and to the 4th March, 1852, were determined from a discussion of the observations up to the latter date, and are as follows: —

EQUATORIAL REDUCTION FOR INDIVIDUAL WIRES TO MEAN OF ALL.

	I.	II.	III.	IV.	V.
	s.	s.	s.	s.	s.
A.	+ 62.978	+ 60.529	+ 57.646	+ 54.672	+ 52.222
B.	32.488	30.422	27.984	+ 25.598	+ 23.683
C.	+ 3.946	+ 1.995	+ 0.035	— 1.994	— 4.068
D.	— 23.562	— 25.036	— 28.038	30.152	32.547
E.	— 52.033	— 55.135	— 57.634	— 60.053	— 62.916

The equatorial reduction for the mean of each tally to the mean of all is, therefore,

A	B	C	D	E
+57ˢ.609	+28ˢ.035	—0ˢ.017	—28ˢ.067	—57ˢ.554

For the second diaphragm, the intervals were deduced from a discussion of observations made between 1852, March 10, and 1855, January 20. The results are as follows: —

EQUATORIAL REDUCTION FOR INDIVIDUAL WIRES TO MEAN OF ALL.

	I.	II.	III.	IV.	V.
	s.	s.	s.	s.	s.
A.	+ 47.401	+ 46.514	+ 45.649	+ 42.841	+ 42.004
B.	24.585	23.664	+ 22.763	+ 21.827	+ 19.120
C.	+ 1.654	+ 0.898	— 0.009	— 0.905	— 1.816
D.	— 19.371	— 21.909	22.797	23.726	24.635
E.	— 41.860	— 42.705	— 45.481	— 46.402	— 47.267

And the equatorial reductions for the mean of each tally to the mean of all are,

A	B	C	D	E
+44ˢ.882	+22ˢ.392	—0ˢ.036	—22ˢ.488	—44ˢ.743

The chronographic register was used for all the observations.

In the reduction of incomplete observations to the mean of wires, the sine correction was applied whenever it was appreciable, so that the correction for omitted wires assumed the form,

$$\sin f \sec \delta \text{ for Stars,}$$

$$f \sec \delta \frac{1}{1 - \lambda} \text{ for the Sun,}$$

and

$$f \frac{1 - \rho \sin \pi \cos (\varphi' - \delta)}{(1 - \lambda) \cos \delta} \text{ for the Moon,}$$

in which the notation is Bessel's, and the tables used in the computations are those prepared by Professor Coffin for the Washington observations of 1845.

The columns of the printed observations seem to require no explanation. In the column of corrections due to the instrument, the terms depending on the wire reductions are entered separately from those depending upon the adjustments.

As the corrections applied to the observed times of transit, in order to obtain the right ascensions, have themselves often been obtained by comparison of these identical times of transit with the Almanac, it is manifest that the resultant right-ascensions obtained for fundamental stars are to a great extent illusory; and, consequently, the reduced observations of fundamental stars can only be entitled to the rank of independent determinations when several were observed on the same night.

Excepting in the case of those stars which are in the Nautical Almanac list, the values given under the heading "Reduction to 1850. 0" are the simple reductions from the apparent equinox of date to the mean equinox of 1850. 0. For the former, the reductions were derived from the Almanac, and the proper motions there assumed necessarily entered into the reduction, they being merged there with the computed precessions under the name of "annual variations." This remark holds for all the observations of the volume.

The resultant mean places are corrected on pp. 557 – 566.

It is proper to add that the reduction of these transit observations had been already carried to considerable extent by Professor Lawrence; but owing to the different values assumed for the instrumental errors, the work has been repeated independently under my direction, Messrs Stillman Masterman, John N. Stockwell, and W. L. Wellman aiding the computations of both years, and Mr. C. C. Soule also in those of 1851.

THE MURAL CIRCLE.

THE instrument has been fully described in previous volumes of the Washington Observations, and appears to have been unchanged during the years 1851, 1852. The divisions of its rim are 5′ apart, and are read by six equidistant microscopes so adjusted that each revolution of the micrometer screw measures approximately 1′. The degrees and even minutes of the circle reading were given by microscope A, which is on the north side of the pier, and at the height of the axis of the circle.

The other microscopes were so arranged that

the readings for	B	C	D	E	F	
are those for A	+180°,	+300°,	+120°,	+240°,	+60°,	respectively.

During all the period embraced in this volume, the position of the circle was such that the reading for the zenith-point was about 20°; and as the numbering on the rim increases towards the south, the reading for the equator-point was not far from 58° 53′ 40″.

The observers were Professors Yarnall and Benedict and Mr. Charles Ferguson, whose initials are appended to the observations respectively made by them.

The method of observing and the arrangement of the wires of the micrometer are explained in the Introduction to the Observations for 1849, 1850, page x. The diaphragm which was in use during the latter half of the year 1850 appears to have remained unchanged throughout 1851 and 1852, the intervals of the horizontal wires being 5′, 10′, 10′, 5′, respectively.

The head of the telescope micrometer is graduated in one hundred divisions, and so adjusted that when the middle wire of its diaphragm is in coincidence with the horizontal fixed wire which marks the middle of the field, the reading is as nearly as possible 30r.000. The revolutions of the micrometer are indicated by a notched scale in the margin of the field, and the number of the revolution as given was read off from that notch of the scale which had been actually passed by the wire employed. The numberings of the wires and the readings of the scale increase to the northward, so that an increase of micrometer reading is equivalent to a corresponding decrease in the readings of the circle.

Observations to determine the value of a revolution of the micrometer give the following results: —

MICROMETER REVOLUTIONS.

Date.	Corrected Circle Reading. C.	Corrected Mic. Reading. m.	EQUATIONS. μ	$\frac{\mu^2 - \frac{1}{n}[\mu^2]}{(2.39)^2}$	a	Values of r and Δr.	
1851. August 29	199° 49′ 58″.783	r. 20.9328	− 9.56r	− 8 (Δr)	= − 9′ 59″.971	2μ = 19.12	r = 62″.7667
	54 59.317	25.7216	− 4.78	− 4	− 4 59.989	9.56	r = 62.7294
	59 59.100	30.5057	0.00	− 8	− 0 0.463	[h] = 4.50	r = **62.7718**
	200 4 58.733	35.2676	+ 4.78	− 4	+ 5 0.306		
	9 58.117	40.0406	+ 9.56	+ 8	+ 10 0.128	16 (Δr)	= + 0.157
	199 59 58.810	30.4937				8	− 0.317
						8	+ 0.463
				(Δr) = (2.39)² Δr.		[19.6]	(Δr) = + **0.0096**
							Δr = + **0.0017**

MICROMETER REVOLUTIONS. — Continued.

Date.	Corrected Circle Reading. C.	Corrected Mic. Reading. m.	EQUATIONS. μ	$\frac{\mu^2 - \frac{1}{n}[\mu^2]}{(2.39)^2}$	a	Values of r and Δr.	
1851. Sept. 4	199° 49′ 58″.833	r. 20.9390	− 9.56r	+ 8 (Δr)	= − 10′ 0″.673	2μ = 19.12	r = 62″.8509
	54 59.017	25.7170	− 4.78	− 4	− 5 0.364	9.56	r = 62.8087
	59 58.300	30.4812	0.00	− 8	− 0 0.077	[h] = 4.50	r = 62.8425
	200 4 58.666	35.2642	+ 4.78	− 4	+ 5 0.088	16 (Δr)	= + 0.360
	9 57.100	40.0042	+ 9.56	+ 8	+ 10 1.033	8	+ 0.276
	199 59 58.383	30.4811				8	+ 0.077
							(Δr) = + 0.0224
						[19.6]	Δr = + 0.0039
1852. May 10	199 49 60.292	21.2063	− 9.56r	+ 8 (Δr)	= − 10 0.682	2η = 19.12	r = 62.786
	54 60.642	25.9723	− 4.78	− 4	− 4 59.453	9.56	r = 62.810
	59 60.217	30.7649	0.00	− 8	− 0 0.670	[h] = 4.50	r = 62.791
	200 4 61.980	35.5462	+ 4.78	− 4	+ 5 1.012	16 (Δr)	= − 0 902
	9 60.233	40 3180	+ 9.56	+ 8	+ 9 59.780	8	− 1.559
	194 59 60.673	30.7615				8	+ 0.670
							(Δr) = − 0.0561
						[19.6]	Δr = − 0.0098
June 7	199 49 57.050	21.1174	− 9.56r	+ 8 (Δr)	= − 10 1.134	2μ = 19.12	r = 62.865
	54 56.850	25.8794	− 4.78	− 4	− 5 0.210	9.56	r = 62.909
	59 58.020	30.6860	0.00	− 8	− 0 0.710	[h] = 4.50	r = 62.874
	200 4 58.300	35.4400	+ 4.78	− 4	+ 5 1.203	16 (Δr)	= − 0.289
	9 56.900	40.2034	+ 9.56	+ 8	+ 10 0.845	8	− 0.993
	199 59 57.424	30.6652				8	+ 0.710
	n = 5						(Δr) = − 0.0179
						[196]	(Δr) = − 0.0031
July 20	199 49 64.267	21.1407	− 9.56r	+ 8 (Δr)	= − 10 0.085	2μ = 19.12	r = 62.771
	54 64.600	25.9089	− 4.78	− 4	− 4 59.004	9.56	r = 62.732
	59 65.358	30.7394	0.00	− 8	− 0 1.424	[h] = 4.50	r = 62.763
	200 4 65.232	35.4878	+ 4.78	− 4	+ 5 0.434	16 (Δr)	+ 0.012
	9 65.033	40.2700	+ 9.56	+ 8	+ 10 0.097	8	− 1.430
	199 59 64 898	30.7094				8	+ 1.424
							(Δr) = + 0.0003
						[19.6]	Δr = + 0.0001

MICROMETER REVOLUTIONS. — Continued.

Date.	Corrected Circle Reading. C.	Corrected Mic. Reading. m.	EQUATIONS. μ	$\frac{\mu^2 - \frac{1}{n}[\mu^2]}{(2.39)^2}$	a	Values of r and Δr.	
1852.	° ′ ″	r.			′ ″		″
August 29	199 49 59.483	21.1788	− 9.56r	+ 8 (Δr)	= − 9 59.832	2μ = 19.12	r = 62.797
	54 59.908	25.9641	− 4.78	− 4	− 4 59.740	9.56	r = 62.681
	59 60.567	30.7710	0.00	− 8	− 0 0.770	[h] = 4.50	r = **62.774**
	200 4 59.183	35.5248	+ 4.78	− 4	+ 4 59.491	16 (Δr)	= + 1.014
	9 60.010	40.2964	+ 9.56	+ 8	+ 10 0.846	8	+ 0.249
	199 59 59.830	30.7470				8	+ 0.770
							(Δr) = + **0.0635**
						[19.6]	Δr = + **0.0111**
Sept. 7	199 49 60.083	21.1896	− 9.56r	+ 8 (Δr)+	= − 10 0.859	2μ = 19.12	r = 62.862
	54 59.767	25.9575	− 4.78	− 4	− 5 0.415	9.56	r = 62.798
	59 60.033	30.7307	0.00	− 8	+ 0 0.276	[h] = 4.50	r = **62.849**
	200 4 60.100	35.5173	+ 4.78	− 4	+ 4 59.930	16 (Δr)	= + 0.205
	9 59.450	40.2689	+ 9.56	+ 8	+ 10 1.064	8	+ 0.485
	199 59 59.450	30.7328				8	− 0.276
							(Δr) = + **0.0131**
						[19.6]	Δr = + **0.0023**
Dec. 30	199 49 58.870	21.3303	− 9.56r	+ 8 (Δr)	= − 10 0.991	2μ = 19.12	r = 62.842
	54 59 175	26.1063	− 4.78	− 4	− 5 0.435	9.56	r = 62.886
	59 59.075	30.8758	0.00	− 8	+ 0 0.126	[h] = 4.50	r = **62.851**
	200 4 58.992	35 6445	+ 4.78	− 4	+ 5 0.751	16 (Δr)	= − 0.436
	9 59.267	40.4320	+ 9.56	+ 8	+ 10 0.555	8	− 0 316
	199 59 59.076	30.8778				8	− 0.126
							(Δr) = − **0.0265**
						[19.6]	Δr = − **0.0046**

The adopted values for each date are given in the margins of the printed pages of observations.

The determination of the nadir point was made in the same manner as during the two years preceding. The telescope being directed downward, the circle was set on 200° as nearly as might be, and the middle horizontal wire brought by means of the micrometer-screw into coincidence with its image as reflected from the surface of Mercury. The microscopes were read both before and after the observations of coincidence, and the "micrometer-zero" is the mean of the corrected observations of the telescope-micrometer reduced to the circle reading 200° 0′ 0″.

The fourth column of the printed pages is intended for noting that vertical wire near which the pointing was made, thus furnishing the argument for the "reduction to the meridian"; but as it was left blank in all the observations of the year 1851, the settings with the micrometer during that year are assumed to have been made in the middle of the field, except where otherwise indicated in the following column.

Column 5, headed "Hour-Angle," contains the times at which were taken the several micrometer readings.

Column 13 contains the mean of the readings of the telescope-micrometer, which were usually five in number. In those cases where the observations were made on several wires, each reading has been reduced to the middle of the field, and the mean of the corrected readings is given. Where they were not made on all the wires, the numbers are given of those on which they were made.

Column 14 contains the value of the micrometer-zero, determined in the manner already explained.

Column 22, with heading "Correction for Instrument," contains the micrometer-equivalent in arc. In this, the readings from column 13 are first corrected for reduction to the meridian, and for eccentricity of the micrometer-head, in accordance with the table of Professor Coffin, published in previous volumes of the Washington Observations, as well as for the inclination of the wire to the horizon when this latter correction is appreciable. Observations of the Sun and Moon have received an additional correction due to their proper motions in declination during the interval from the meridian.

Column 23, entitled "Correction for Object" contains the corrections to be applied to the circle-readings for refraction, parallax, semi-diameter (when only one limb was observed), and for defective illumination in the cases of Mercury, Venus, and the Moon.

In computing the refractions, the scale-readings of the external thermometer were corrected by the table given p. VIII.

The reductions to the mean equinox of 1850. 0 for Nautical Almanac Stars, were made by means of the values given in that work, and consequently include the supposed proper motions. But for other stars, the reductions are simply for referring the observed place to the mean equinox of 1850. 0.

A great portion of the labor of reduction has been borne by Professor J. C. Watson; Messrs. C. C. Soule and E. Winslow also assisting, especially in the verifications.

THE MERIDIAN CIRCLE.

The instrument is described in detail in Vol. II. of the Washington Observations (1846), and drawings of it may be found in Vol. I., plates VII. and VIII.

Professor James Major and Mr. Daniel G. Major were the observers during both years, and their observations are distinguished by the initials of their names.

Besides a fixed horizontal wire which marks the middle of the field, after January 13, 1852, the diaphragm of the telescope contained five tallies or sets of five vertical wires each, and eleven movable horizontal wires.

The intervals for the mean of each tally of the transit wires from the mean of all the twenty-five, were deduced from the discussion of a large number of observations not only of circumpolar, but also of other stars, and the following values of the equatorial intervals have been adopted.

1851.

	A	B	C	D	E
	s.	s.	s.	s.	s.
January 1 to June 28	+56.378	+27.886	—0.079	—28.035	—56.140
August 13 to Dec. 31	+56.164	+28.036	+0.047	—27.904	—56.373

1852.

	A	B	C	D	E
	s.	s.	s.	s.	s.
January 1 to Dec. 31	+56.133	+28.025	+0.065	—27.892	—56.343

The horizontal or micrometer wires are numbered from the upper part of the field, when the circle is east and the telescope directed southward. Their intervals were determined by means of the collimating eye-piece, each wire having been made to coincide with its own image, while each of the four microscopes was read off for this position of the circle. The results of observations to determine the intervals and revolutions were as follows: —

WIRE INTERVALS AND MICROMETER REVOLUTIONS.

1851.

From observations of February 27.

VI — I	20′ 24″.981	VI — IV	8′ 47″.914
VI — II	14 37.374	VI — V	2 54.941
VI — III	11 40.425	VII — VI	2 58.682

1 revolution = 34″.3764.

From observations of March 3.

VI — V	2′ 54″.187	IX — VI	11′ 39″.887
VII — VI	2 58.625	X — VI	14 36.602
VIII — VI	8 46.374	XI — VI	20 26.995

1 revolution = 34″.193.

From observations of September 15.

VII — VI	2′ 58.″250	X — VI	14′ 35.″611
VIII — VI	8 45.619	XI — VI	20 25.230
IX — VI	11 39.053		

From observations of December 11.

VI — I	20′ 26.″003	VII — VI	2′ 55.″710
VI — II	14 38.476	VIII — VI	8 43.332
VI — III	11 42.297	IX — VI	11 36.845
VI — IV	8 49.453	X — VI	14 32.945
VI — V	2 56.849	XI — VI	20 22.573

1 revolution = 34″.274.

A combination of all the determinations from the beginning of the year until June, 1852, gives as the most probable values for the intervals the following, which have been adopted: —

VI — I	+ 20′ 24.″98	VII — VI	2′ 58.′56
VI — II	14 37.37	VIII — VI	8 46.02
VI — III	11 40.42	IX — VI	11 39.52
VI — IV	8 47.81	X — VI	14 36.12
VI — V	2 54.51	XI — VI	20 26.18

and for the micrometer-screw the *adopted* value

$$1^r = 34''.247$$

which values were used throughout the year.

1852.

The determinations of this year were as follows: —

From observations of July 15 and 19.

VI — I	20′ 24.″11	VI — II	14′ 34.″35	VI — III	11′ 43.″89

Fram observations of August 6.

VI — V	2′ 53.″94	VI — IX	11′ 39.″38
VI — VII	2 59.87	VI — X	14 35.63
VI — VIII	8 43.93	VI — XI	20 26.20

From observations of December 31.

VI — I	20′ 23.″41	VI — II	14′ 34.″50	VI — III	8′ 46.″52

The means of the resulting determinations give the following adopted values for the intervals: —

	Before June 10.	After June 10.
VI — I	20′ 24.″98	20′ 24.″64
VI — II	14 37.37	14 35.04
VI — III	11 40.42	11 44.33
VI — IV	8 47.81	8 47.79
VI — V	2 54.51	2 53.40
VII — VI	2 58.56	3 0.46
VIII — VI	8 46.02	8 44.24
IX — VI	11 39.52	11 39.80
X — VI	14 36.12	14 36.06
XI — VI	20 26.18	20 26.52

Throughout the year, 34″. 304 has been used as the value of one revolution of the micrometer-screw.
The following are the results of observations with the level. The adopted values of one level division being

		div.	s.
1851.	January 1 to February 1	1 =	0. 1121
"	February 1 to December 31		0. 0850
1852.	January 1 to December 31		0. 1333

VALUES OF LEVEL ERROR.

[Where the position of the Circle is not given, the values of *b* have been put in the first column.]

DATE.		Circle East.		Circle West.		REMARKS.
		Telescope N.	Telescope S.	Telescope N.	Telescope S.	
1851.		s.	s.	s.	s.	
January	23	− 0. 214	− 0. 175	+ 0. 134	+ 0. 085	Values of Level Division in 1851.
	27	− 0. 223	− 0. 270	+ 0. 140	+ 0. 111	January 1 to February 1, 0.s 1121.
	28	− 0. 217	− 0. 194	+ 0. 141	+ 0. 140	Remainder of year, 0. 0850.
		Position of Circle not given.				
February	6	+ 0. 047	+ 0. 019			
	6	(+ 0. 071)	(+ 0. 039)			In this observation the position N. or S. not given.
	7	+ 0. 031	+ 0. 039			
	12	+ 0. 090	+ 0. 086			
	18	+ 0. 139	+ 0. 140			
	22	+ 0. 113	+ 0. 092			
	25	+ 0. 127	+ 0. 127			
March	4	+ 0. 134	+ 0. 136			
(No date)		+ 0. 125	+ 0. 142			
March	11	+ 0. 075	+ 0. 102			In this observation the position N. or S. not given.
	13	+ 0. 018	+ 0. 081			In this observation the position N. or S. not given.
	24	+ 0. 116	+ 0. 110			
	28	+ 0. 160	+ 0. 172			
April	4	+ 0. 167	+ 0. 174			In this observation the position N. or S. not given.
	8	+ 0. 207	+ 0. 187			
May	7	+ 0. 237	+ 0. 223			
June	4	+ 0. 305	+ 0. 409			
	11	+ 0. 487	+ 0. 419			
	24	+ 0. 463	+ 0 396			
July	5	− 0. 189	− 0. 219	+ 0. 039	+ 0. 027	
	28	− 0. 158	− 0. 171	− 0. 004	− 0. 016	
	28	− 0. 108	− 0. 157	+ 0. 005	− 0. 033	
August	1	− 0. 201	− 0. 151	− 0. 046	− 0. 055	
		Position of circle not given.				
	13	− 0. 260	− 0. 248			
	20	− 0. 251	− 0. 256			
	20	− 0. 013	− 0. 035			(at Noon)
	26	+ 0. 003	+ 0. 018			
	27	+ 0. 033	+ 0. 031			
	27	− 0. 010	+ 0. 018			
	29	− 0. 025	− 0. 028			
September	3	− 0. 065	− 0. 015			
	3	− 0. 047	− 0. 024			

DATE.		Circle East.		Circle West.		REMARKS.
		Telescope N.	Telescope S.	Telescope N.	Telescope S.	
1851.		s.	s.			
September	17	— 0.009	+ 0.016			
	20	— 0.113	— 0.107			N. or S. not given.
	26	— 0.039	— 0.037			
October	2	— 0.068	— 0.070			
	6	— 0.094	— 0.098			
	9	— 0.093	— 0.111			
	10	— 0.120	— 0.107			
	14	— 0.205	— 0.244			
	22	— 0.117	— 0.163			
	27	— 0.095	— 0.046			
	30	— 0.158	— 0.130			
November	7	— 0.156	— 0.136			
	29	— 0.188	— 0.205			
December	2	+ 0.238	+ 0.150			
	5	— 0.182	— 0.150			
	8	— 0.231	— 0.202			
	9	— 0.203	— 0.242			
	18	— 0.318	— 0.368			
1852.						
1852.						
January	14	— 0.536	— 0.575			Value of Level Division in 1852 0s. 1333.
	14	— 0.568	— 0.496			
	20	— 0.620	— 0.584			
	26	— 0 585	— 0.592			
	27	— 0.466	— 0.612			
February	14	— 0.303	— 0.293			
	17	— 0.177	— 0 203			
	19	— 0.286	— 0.215			
	25	— 0.378	— 0.406			
	27	— 0.315	— 0.309			
March	10	— 0.310	— 0 312			
	11	— 0.262	— 0.261			
	12	— 0.247	— 0.247			
	18	— 0.127	— 0.149			
	19	— 0.160	— 0.135			
	23	— 0.170	— 0.189			
April	2	— 0 265	— 0.207			
	7	— 0.213	— 0.271			
	12	— 0.155	— 0.166			
	15	— 0.078	— 0.069			
	24	— 0.147	— 0.211			
	27	— 0.091	— 0.081			
May	3	— 0.058	— 0.025			
	4	— 0.095	— 0.097			
	5	— 0.073	— 0.008			
	13	— 0.061	— 0.065			
	18	— 0.110	— 0.159			

DATE.		Circle East.		Circle West.		REMARKS.
		Telescope N.	Telescope S.	Telescope N.	Telescope S.	
1852.		s.	s.	s.	s.	
June	3	− 0.013	− 0.053			
	5	− 0.052	+ 0.039			
	9	− 0.015	− 0.007			
	25	+ 0.109	− 0.107			
	27	+ 0.025	+ 0.013			
	28	+ 0.057	+ 0.048	− 0.007	+ 0.005	
	28	+ 0.295	+ 0.304	+ 0.058	+ 0.060	
July	9	− 0.010	+ 0.003			
	10	+ 0.009	− 0.010			
	16	+ 0.116	+ 0.085			
	16	+ 0.099	+ 0.077			
	19	+ 0.126	+ 0.110			
	20	+ 0.067	+ 0.058			
	22	+ 0.080	+ 0.097			
	23	+ 0.079	+ 0.071			
	29	+ 0.021	+ 0.047			
September	17	+ 0.217	+ 0.187			
	22	− 0.138	+ 0.103			
	23	+ 0.128	+ 0.175			
	28	(− 0.518)	+ 0.241			
	30	+ 0.171	+ 0.290			
October	1	+ 0.161	+ 0.347			
	5	− 0.046	+ 0.262			
	5	− 0.046	+ 0.123			
	6	+ 0.137	+ 0.113			
	6	− 0.081	+ 0.001			
	7	− 0.198	+ 0.303			
	8	− 0.172	− 0.347			
	9	− 0.235	− 0.183			
	10	− 0.292	+ 0.294			
	20	+ 0.347	+ 0.209			
November	8	+ 0.340	+ 0.338			
	8	+ 0.392	+ 0.341			
	10	+ 0.289	+ 0.288			
	12	+ 0.280	+ 0.242			
	27	+ 0.170	+ 0.147			
December	1	+ 0.219	+ 0.157			
	13	+ 0.265	+ 0.235			
	14	+ 0.202	+ 0.189			

From these and from the other level observations between 1845 and 1855, which may be found in their respective volumes, the amount of the inequality of the pivots has been deduced. The following are the results for the excess of the radius of the clamp pivot.

Date.			Excess. d.
1845	December	3	0.35
	"	9	0.23
1849	January	8	1.46
1850	October	22	1.61
1851	January	23	1.35
	"	27	1.66
	"	28	1.56
	"	29	1.94
	July	5	1.33
	"	28	0.90
	"	28	0.69
	August	1	0.53

Date.			Excess. d.
1852	January	28	1.53
1853	October	8	2.18
	"	11	2.21
1854	April	22	2.46
	"	25	2.11
	"	25	2.25
	May	4	2.53
	"	8	2.43
1855	February	4	1.02
	"	5	3.99
	"	6	3.71
	March	7	4.94
	"	7	1.17

Giving to each of these determinations an equal weight, we obtain $\pm 0^s.095$ as the correction to be applied to all observed level errors, — the upper sign being used when the clamp is east.

The figure of the pivots was known to be irregular, and the observations which led to this inference, together with their discussion, may be found in Volume II. of the Washington Observations. But the materials do not admit of any determination of the error of form, and no correction on this account has been applied.

The errors of collimation were measured by means of the micrometer-screw and collimating eye-piece as follows. Unless otherwise stated, the circle was always east.

1851.

			r.	
January	21	Image E.	0.042	Circle West.
"	21	" E.	0.050	" East.
February	6	" E.	0.075	
"	6	" E.	0.100	
"	7	" E.	0.130	
"	12	" E.	0.075	
"	18	Image coincides with thread.		
March	4	" W.	0.015	
"	11	Image coincides with middle thread.		
"	13	" " " " "		
"	20	" W.	0.125	
"	26	Image coincides with thread.		
April	4	" W.	0.095	
"	9	" W.	0.105	
"	18	" W.	0.060	
May	6	" W.	0.175	
"	7	" W.	0.165	
June	4	" W.	0.265	
"	7	" W.	0.225	
"	10	" W.	0.375	
"	14	" W.	0.305	

			r.	
June	17	Image W.	0.280	
July	28	" E.	0.175	Circle West.
"	28	" E.	0.052	" East.
"	28	" E.	0.202	" West.
"	28	" E.	0.042	" East.
August	1	" E.	0.092	" "
"	1	" E.	0.162	" West.
"	6	" E.	0.208	
"	13	" E.	0.196	
"	15	" E.	0.195	
"	27	" W.	0.145	
"	29	" W.	0.080	
September	3	" E.	0.075	
"	17	" W.	0.085	
"	26	" W.	0.055	
October	10	" coincides.		
"	17	" E.	0.065	
"	20	" E.	0.062	
"	23	" E.	0.095	
November	29	" E.	0.235	
December	19	" E.	0.335	

1852.

			r.
January	27	Image E.	0.360
March	12	" E.	0.104
April	15	Image and wire coincide.	
"	23	" " " "	
"	24	" " " "	
"	24	" " " "	
May	3	" " " "	

			r.
May	4	Image almost coincides, perhaps a little E.	
"	6	" " " "	
"	18	" " " "	
"	26	" " " "	
"	31	Image a very little E.	
June	3	Image and wire almost coincide.	
"	9	Image and wire coincide.	

			r.	
June	10	Image and wire coincide.		
"	15	Image a little W.		
"	28	Image W.	0.345	Circle West.
"	28	Image and wire coincide		Circle East.
"	29	" " " "		
July	2	Image W.	0.082	
"	3	" E.	0.186	
"	7	" E.	0.022	
"	8	" E.	0.015	
"	9	Image and wire almost coincide, a little West.		
"	9	Image and wire coincide.		
"	10	Image a very little West.		
"	15	Image W.	0.054	
"	15	Image and wire coincide.		
"	19	Image W.	0.065	
"	19	Image and wire coincide.		
"	20	Image W.	0.062	
"	22	Image and wire coincide.		
"	23	Image W.	0.052	
"	24	" W.	0.055	
"	28	" W.	0.079	
"	29	" W.	0.075	
September	23	Image and wire coincide.		
"	27	Image W.		
"	28	" W.	0.010	
"	28	" W.	0.082	

			r.
September	29	Image W.	0.196
"	30	" W.	0.108
"	30	" W.	0.162
October	1	Image W.	0.215
"	2	" W.	0.135
"	5	Image and wire coincide.	
"	5	Image E.	0.225
"	6	" E.	0.272
"	6	" E.	0.067
"	7	" E.	0.207
"	8	" E.	0.165
"	8	" E.	0.150
"	10	" W.	0.006
"	11	" E.	0.077
"	11	" E.	0.047
"	20	" W.	0.220
"	21	" W.	0.197
"	21	" W.	0.184
November	8	" W.	0.300
"	8	" W.	0.260
"	9	" W.	0.199
"	10	" W.	0.230
"	12	" W.	0.240
"	27	" W.	0.120
December	1	" W.	0.140
"	8	" W.	0.165

In addition to these micrometrical determinations, the star ϵ *Ursæ Minoris*, January 25, was observed on ten wires before, and two wires after, reversal.

The values of the error of collimation thus obtained have been corrected for diurnal aberration, and referred to the mean of all twenty-five wires. The means of the several results were then taken for periods during which the correction seemed to be most constant, and the following values thus obtained.

1851.

				C. s.					C. s.
January	1	to	February 1	+ 0.058	May	26	to	June 28	+ 0.381
February	6			+ 0.233	August	13	to	August 15	− 0.038
February	7	to	February 17	+ 0.417	August	26	to	August 29	− 0.139
February	18	to	March 13	+ 0.324	September	3	to	October 1	− 0.080
March	24	to	April 4	+ 0.217	October	2	to	November 29	− 0.074
April	9	to	May 8	+ 0.345	December	5	to	December 23	+ 0.079

1852.

February	9	to	March 12	− 0.137	July	22	to	September 28	+ 0.075
March	18	to	April 13	− 0.039	September	29	to	October 2	+ 0.095
April	24	to	May 2	− 0.126	October	5	to	October 7	+ 0.265
May	3	to	June 3	− 0.037	October	8	to	October 9	− 0.099
June	3	to	July 2	+ 0.026	October	10	to	October 11	+ 0.377
July	3	to	July 8	+ 0.128	October	20	to	November 12	+ 0.070
July	9	to	July 10	+ 0.038	November	27	to	December 1	+ 0.021
July	15	to	July 22	+ 0.075	December	8			− 0.019

The quantities m and n for the reduction of transits were deduced from comparisons of high and low stars, using the upper and lower culminations of Polaris and a circumpolar and southern star whenever available. Inasmuch as the adjustments in level and azimuth were generally found to vary only when the amount of the collimation error was also changed, the adopted values are a mean of the results during the periods for which c remained constant. They are given at the bottom of each page of the printed observations.

Column 1 contains, under the heading "Instrument," the sum of the corrections in declination for runs, reduction to the meridian, and micrometer corrections.

Column 2 contains, under the heading "Object," the sum of the corrections in declination for refraction, parallax, and semi-diameter. For lunar observations, the equatorial horizontal parallax has been interpolated from the Berlin *Jahrbuch*, and the correction for parallax computed by Bessel's formulas. The semi-diameter was independently computed for each observation.

The Column "Red. to 1850. 0" was prepared in the manner already explained for the transit observations.

The reductions for 1851 were made by Professor J. C. Watson and Mr. W. L. Wellman, and for 1852 by Professor Watson and Mr. E. Winslow.

THE EQUATORIAL.

A description and representation of the Equatorial instrument may be found in Volume I. of the Washington Observations.

From the commencement of 1851 until December 18 of the same year, there were only three transit and three movable declination wires in the micrometer-diaphragm. At that date, the number of the former was increased to fifteen, and of the latter to five, though only three of the transit system, designated by the letters A, B, C, were used in the observations of either year. There was also one fixed declination wire at the 40th division of the micrometer-scale. The equatorial intervals were about $12^s.3$.

The adopted value of one revolution of the micrometer-screw is $15''.3696$, and the intervals of the movable declination wires as follows: —

1851 January 1 to January 16.		January 16 to December 18.
	revs.	revs.
3 — 2	= 30.219	30.179
2 — 1	= 29.870	29.936
3 — 1	= 60.089	60.115

1851 December 18 to 1852 December 31.	
	r.
5 — 1	60.125
4 — 1	42.980
3 — 1	30.064
2 — 1	17.071

Beginning with the one nearest the head of the micrometer-screw, the wires are numbered in the same direction as the scale readings. With few exceptions, (and only when the object is north of the zenith, and the hour-angle small,) the readings of the scale increase with the distance from the north pole.

The observations were all made by Mr. James Ferguson, by whom also they had been reduced and prepared for publication. Indeed, with the exception of Iris and Vesta, the results of all of them had already been published in the Astronomical Journal and Astronomische Nachrichten of the years in which the observations had been made, — the main defect of these results being that they depend upon the catalogue places of the stars of comparison. Aided by Messrs. J. N. Stockwell, Ewing Winslow, S. S. Eastwood, W. L. Wellman, and Professor J. C. Watson, all the reductions have been computed in duplicate.

The observations embrace the planets Mars and Venus, the asteroids Astræa, Calliope, Victoria, Egeria, Eunomia, Flora, Fortuna, Hebe, Hygea, Irene, Iris, Massalia, Melpomene, Metis, Parthenope, Psyche, Thetis, Vesta; and the Comets, Encke 1851, I; 1851, II, and 1852, II.

In general, the comparison-stars have been re-observed at Washington within a short time. Their resultant mean places were furnished for the equinox of 1860.0, when the determination was made subsequent to 1855, and the adopted mean places for 1850 in all cases. The observed or adopted mean places of the stars of comparison follow those of the Asteroid determined by them.

Most of the observations were made in mean time, and when sidereal time was used, the fact is always indicated in the record. When the observed intervals of transit are in mean time, the small correction designated t is requisite to convert these intervals into differences of right ascension. In the tables of results given on pages 611 – 664, the moment of the observation is always given in mean time.

The headings of the columns explain the arrangement of the printed pages. In column 7, entitled "Micrometer," the first figure indicates the wire on which the observation for declination was made. The margin contains

The chronometer-correction,

The apparent place of the comparison-star,

The mean of the corrected times of observation,

The observed differences in α and δ,

The corrections $(\Delta\rho)$ for differential refraction: (p) for parallax: and (Δt) to reduce a mean to a sidereal interval.

OBSERVATIONS

WITH THE

TRANSIT INSTRUMENT,

1851.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	17.00	19.40	22.11	25.10	27.70						
	2		B.	47.37	49.55	52.00	54.36	56.21						
Jan. 7	3	γ Ceti	C.	15.87	17.80	20.00	22.00	24.00	34 19.93	+ 0.40	+74.56	2 35 34.89	— 2.87	*B.
	4		D.	43.50	46.00	48.00	50.17	52.49						
	5		E.	12.00	15.10	17.41	20.00	23.00						
	6		A.	22.00	24.63	28.00	31.19	34.00						
	7		B.	55.43	57.69	00.65	3.10	5.26						
	8	Eridani (922)	C.	26.60	29.00	31.18	33.30	35.55	49 31.00	+ 0.45	+74.55	2 50 46.00	— 2.55	
	9		D.	57.00	00.00	2.20	4.40	6.90						
	10		E.	27.20	30.60	33.48	36.20	39.31						
	11		B.	42.00	44.10	46.50	49.00	51.00						
	12		C.	10.60	12.59	14.61	16.68	18.80		—14.42				
	13	α Ceti	D.	38.30	40.83	42.73	45.00	47.23	53 29.08	+ 0.40	+74.55	2 54 29.61	— 3.00	
	14		E.	6.80	9.80	12.39	14.69	17.80						
	15		A.	17.10	20.00	23.29	26.81	29.60						
	16		B.	52.19	54.40	57.22	00.00	2.40						
	17	α Eridani	C.	25.00	27.30	29.59	31.85	34.16	4 29.55	+ 0.47	+74.54	3 5 44.56	— 2.56	
	18		D.	56.70	59.40	1.79	4.40	7.00						
	19		E.	29.40	32.80	35.70	38.55	42.00						
	20	η Tauri	C.	19.00	21.00	23.40	25.62	27.75	37 23.35	+ 0.02 + 0.36	+74.51	3 38 38.24	— 3.69	
	21		B.	31.72	34.00	36.70	39.19	41.50						
	22	ι^8 Eridani	C.	3.18	5.40	7.75	10.00	12.18	46 7.64	+ 0.02 + 0.46	+74.50	3 47 22.62	— 2.81	
	23		D.	33.60	36.21	38.55	41.00	43.59						
	24		A.	2.00	4.79	8.00	10.60	13.70						
	25		B.	33.80	36.40	38.51	41.40	43.30						
	26	α Tauri	C.	3.59	5.75	8.00	10.00	12.12	26 7.88	+ 0.37	+74.47	4 27 22.72	— 3.73	
	27		D.	32.19	34.88	37.20	39.28	41.70						
	28		E.	2.30	5.40	8.00	10.75	13.45						
	29		A.	26.68	29.30	32.60	36.00	38.80						
	30		B.	1.49	3.65	6.21	9.28	11.40						
	31	β Tauri	C.	33.80	36.20	38.40	40.40	43.00	15 38.28	+ 0.35	+74.43	5 16 53.06	— 4.26	
	32		D.	5.00	7.68	10.25	12.69	15.30						
	33		E.	37.48	41.00	43.78	46.57	50.10						
	34		A.	6.45	9.00	11.80	14.50	17.18						
	35		B.	37.00	39.00	41.50	43.70	45.65						
	36	δ Orionis	C.	5.28	7.49	9.50	11.50	13.40	23 9.398	+ 0.40	+74.42	5 24 24.22	— 3.53	
	37		D.	32.78	35.41	37.47	39.48	42.00						
	38		E.	1.54	4.40	7.00	9.42	12.50						
	39		B.	19.29	21.40	24.00	26.18	28.40						
	40	α Orionis	C.	48.00	50.15	52.00	54.00	56.10	45 52.08	+ 0.02 + 0.39	+74.40	5 47 6.89	— 3.72	
	41		D.	15.80	18.49	20.30	22.32	24.80						
	42		B.	40.00	20.00	56.00	29.00	11.00						
	43	δ Ursæ Minoris, S. P.	C.	41.00	17.00	49.00	29.00	57.00	18 49.00	+ 0.93 + 1.43	+74.37	6 20 5.73	+36.33	
	44		D.	28.00	00.00	41.00	21.00	56.00						
	45		A.	15.00	17.80	20.56	24.00	26.53						
	46		B.	47.10	49.25	51.70	54.36	56.40						
	47	α Canis Majoris	C.	16.80	18.58	20.62	22.68	25.20	37 20.91	+ 0.44	+74.36	6 38 35.71	— 3.39	
	48		D.	45.40	48.10	50.00	52.60	55.00						
	49		E.	15.28	18.40	21.00	23.60	26.70						
	50		A.	17.30	19.60	22.35	25.35	28.00						
	51		B.	47.70	49.79	52.00	54.58	56.61						
13	52	α Ceti	C.	16.10	18.20	20.19	22.30	24.35	53 20.22	+ 0.40	+68.92	2 54 29.52	— 2.94	
	53		B.	43.89	46.20	48.28	50.49	52.80						
	54		C.	12.40	15.38	18.00	20.40	23.29						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $4^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Jan. 7	+ 1 14.49	g 0.050	+ 0.389	— 0.108	+ 0.03
13	+ 1 8.90	g 0.019	+ 0.389	— 0.108	+ 0.03

* B. in the column of Observer indicates Professor Beecher.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	37.20	39.60	42.61	45.75	48.70						
	2		B.	9.50	11.72	14.21	17.00	19.18						
Jan. 13	3	Moon, 1st L. - - -	C.	39.85	42.00	44.15	46.20	48.62	10 44.22	+ 0.37	+68.90	4 13 2.68	- - -	B.
	4		D.	9.40	11.80	14.17	16.50	19.00						
	5		E.	39.80	43.00	45.70	48.30	51.52						
	6		A.	39.79	42.20	45.30	48.40	51.10						
	7		B.	12.00	14.00	16.52	19.20	21.10						
	8	ε Tauri - - - - - -	C.	42.00	44.10	46.40	48.40	50.50	18 46.23	+ 0.37	+68.89	4 19 55.49	— 3.72	
	9		D.	11.19	13.70	16.00	18.18	20.55						
	10		E.	41.42	44.28	47.00	49.71	52.79						
	11		A.	8.00	10.45	13.67	16.59	19.00						
	12		B.	39.58	41.78	44.30	46.70	49.00						
	13	α Tauri - - - - - -	C.	9.32	11.30	13.60	15.58	17.70	26 13.48	+ 0.37	+68.89	4 27 22.74	— 3.70	
	14		D.	38.00	40.55	42.75	45.00	47.30						
	15		E.	7.60	10.80	13.40	16.00	19.00						
	16		A.	59.40	1.00	4.18	7.11	10.00						
	17		B.	30.50	32.50	35.31	37.80	40.00						
14	18	Venus, 2d L. - - -	C.	0.40	2.30	4.68	6.85	8.80	11 4.63	+ 0.44	+68.67	17 12 12.21	- - -	
	19		D.	29.38	32.00	34.00	36.20	38.68						
	20		E.	59.25	2.30	5.05	7.51	10.50						
	21		A.	22.00	25.00	28.69	32.40	35.80						
	22		B.	1.00	3.55	6.75	9.79	12.40						
	23	α Lyræ - - - - - -	C.	37.30	40.00	42.49	44.82	47.90	30 42.52	+ 0.32	+68.65	18 31 51.49	+ 0.03	
	24		D.	12.85	15.70	18.40	21.00	24.18						
	25		E.	49.18	53.00	56.30	59.40	3.18						
	26		B.	3.21	5.40	8.10	10.80	12.81						
16	27	α Arietis - - - - - -	C.	34.21	36.49	38.60	40.70	43.00	57 38.55	+ 0.02 + 0.36	+67.47	1 58 46.40	— 2.90	
	28		D.	4.00	6.70	9.00	11.30	13.88						
	29		A.	24.00	26.20	29.00	32.10	34.60						
	30		B.	54.40	56.40	58.78	1.15	3.20						
	31	γ Ceti - - - - - -	C.	22.80	24.82	27.00	28.72	31.00	34 26.84	+ 0.40	+67.46	2 35 34.70	— 2.82	
	32		D.	50.51	52.81	54.89	57.00	59.40						
	33		E.	19.00	22.00	24.45	27.00	29.80						
	34		A.	18.74	21.00	23.80	26.80	29.40						
	35		B.	49.10	51.00	53.49	56.00	58.00						
	36	α Ceti - - - - - -	C.	17.51	19.60	21.75	23.55	25.59	53 21.61	+ 0.40	+67.45	2 54 29.46	— 2.90	
	37		D.	45.30	47.70	49.70	51.80	54.29						
	38		E.	13.70	16.79	19.20	21.72	24.80						
	39		A.	58.39	2.00	6.30	11.00	14.85						
	40		B.	45.20	48.20	51.90	55.65	58.52						
	41	α Persei - - - - - -	C.	28.51	31.70	34.80	38.00	41.00	12 34.87	+ 0.28	+67.45	3 13 42.60	— 4.44	
	42		D.	11.00	14.80	17.90	21.20	25.00						
	43		E.	54.89	59.40	3.30	6.85	11.50						
	44		A.	51.60	55.40	59.50	4.10	8.00						
	45		B.	38.36	41.20	45.40	49.00	53.00						
23	46	α Persei - - - - - -	C.	23.00	25.20	28.10	31.30	34.45	12 28.20	+ 0.28	+74.00	3 13 42.48	— 4.29	
	47		D.	4.30	7.80	11.15	14.29	18.00						
	48		E.	48.00	52.60	56.50	00.00	4.69						
	49		A.	14.80	17.50	20.60	23.85	26.70						
	50		B.	48.20	50.50	53.00	55.80	57.80						
	51	η Tauri - - - - - -	C.	19.00	21.40	23.50	26.00	28.00	37 23.63	+ 0.36	+74.01	3 38 38.00	— 3.52	
	52		D.	49.60	52.00	54.20	56.60	59.25						
	53		E.	20.50	24.00	26.50	29.10	32.45						

3. Adopted Correction for Semidiameter = + 69s. 19.
18. Adopted Correction for Semidiameter = — 1s. 53.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 4h. 0m.				
	m. s.	s.	s.	s.	s.
Jan. 13	+ 1 8.90	g 0.019	+ 0.389	— 0.108	+ 0.03
14	+ 1 8.47	g 0.019	+ 0.389	— 0.108	+ 0.03
16	+ 1 7.45	g 0.006	+ 0.389	— 0.108	+ 0.03
23	+ 1 14.02	lg 0.031	+ 0.389	— 0.108	+ 0.03

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	45.30	48.15	51.00	54.00	56.58						
	2		B.	17.00	19.00	21.38	24.00	26.00						
Jan. 23	3	γ^1 Eridani	C.	46.20	48.00	50.30	52.40	54.78	49 50.33	+ 0.43	+74.01	3 51 4.77	− 2.80	B.
	4		D.	14.68	17.20	19.20	21.48	24.00						
	5		E.	44.00	46.80	49.58	52.00	55.10						
	6		A.	12.00	00.00	41.00	24.00	15.00						
	7		B.	45.00	25.00	1.00	35.00	17.00						
	8	δ Ursæ Minoris, S. P.	C.	44.00	20.00	55.00	28.00	1.00	18 53.52	+ 1.43	+74.09	6 20 9.04	+34.93	
	9		D.	33.00	5.00	45.00	26.00	00.00						
	10		E.	35.00	16.00	6.00	55.00	34.00						
	11		A.	45.00	47.40	50.30	53.40	56.00						
	12		B.	16.20	18.25	20.80	23.25	25.40						
24	13	γ^1 Eridani	C.	45.50	47.70	49.80	51.82	54.00	49 49.72	+ 0.43	+74.69	3 51 4.84	− 2.79	
	14		D.	13.80	16.65	18.70	20.80	23.29						
	15		E.	43.30	46.40	49.20	51.45	54.58						
	16		A.	2.00	4.55	7.60	10.60	13.20						
	17		B.	33.75	35.82	38.30	41.00	43.00						
	18	α Tauri	C.	3.38	5.50	7.50	9.60	11.70	26 7.55	+ 0.37	+74.71	4 27 22.63	− 3.58	
	19		D.	32.12	34.70	36.70	39.00	41.40						
	20		E.	1.70	5.00	7.50	10.12	13.00						
	21		A.	4.30	7.00	10.00	12.80	15.40						
	22		B.	35.18	37.10	39.68	42.00	44.00						
	23	β Orionis	C.	3.78	6.00	8.00	10.00	12.00	6 7.91	+ 0.42	+74.73	5 7 23.06	− 3.24	
	24		D.	31.65	34.00	36.20	38.35	40.60						
	25		E.	0.40	3.40	6.10	8.60	11.20						
	26		A.	26.29	29.00	32.29	35.50	38.40						
	27		B.	1.00	3.20	6.00	8.80	11.00						
	28	β Tauri	C.	33.21	35.68	38.00	40.00	42.40	15 37.81	+ 0.35	+74.74	5 16 52.90	− 4.18	
	29		D.	4.60	7.48	9.68	12.10	14.60						
	30		E.	36.80	40.40	43.10	46.10	49.68						
	31		A.	6.00	8.31	11.41	14.32	17.00						
	32		B.	36.46	38.60	41.00	43.40	45.40						
	33	δ Orionis	C.	4.80	7.05	9.00	11.00	13.00	23 8.98	+ 0.40	+74.74	5 24 24.12	− 3.46	
	34		D.	32.60	35.00	37.20	39.00	41.40						
	35		E.	1.00	4.00	6.50	9.00	12.00						
	36		A.	48.12	50.60	53.50	56.20	59.00						
	37		B.	18.75	21.00	23.38	25.65	28.00						
	38	α Orionis	C.	47.60	49.69	51.66	53.65	55.75	45 51.61	+ 0.39	+74.75	5 47 6.75	− 3.69	
	39		D.	15.38	17.70	20.00	22.30	24.40						
	40		E.	44.10	47.15	49.60	52.10	55.12						
	41		A.	13.00	1.00	42.00	24.00	14.00						
	42		B.	45.00	26.00	1.00	35.00	16.00						
	43	δ Ursæ Minoris, S. P.	C.	44.00	20.00	53.00	25.00	00.00	18 52.56	+ 1.43	+74.77	6 20 8.76	+34.77	
	44		D.	32.00	2.00	43.00	24.00	00.00						
	45		E.	31.00	12.00	3.00	53.00	35.00						
	46		A.	20.30	23.00	26.16	29.60	32.65						
	47		B.	55.00	57.30	59.80	2.79	5.00						
	48	ϵ Canis Majoris	C.	27.51	29.69	32.00	34.30	36.82	51 32.01	+ 0.46	+74.79	6 52 47.26	− 3.36	
	49		D.	59.00	1.79	4.10	6.55	9.29						
	50		E.	31.18	34.80	37.67	40.39	43.68						
	51		A.	56.10	58.60	1.50	4.70	7.38						
	52		B.	27.85	29.90	32.39	34.80	37.00						
31	53	α Tauri	C.	57.45	59.50	1.41	3.50	5.88	26 1.55	+ 0.37	+80.60	4 27 22.52	− 3.50	
	54		D.	26.00	28.70	30.76	33.00	35.45						
	55		E.	55.70	59.00	1.32	4.00	7.10						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $5^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Jan. 23	+ 1 14.05	lg 0.031	+ 0.389	− 0.108	+ 0.03
24	+ 1 14.73	lg 0.030	+ 0.389	− 0.108	+ 0.03
31	+ 1 20.62	lg 0.040	+ 0.388	− 0.108	+ 0.03

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	58.40	1.00	3.80	6.80	9.25						
	2		B.	29.33	31.25	33.60	36.00	38.00						
Jan. 31	3	β Orionis	C.	57.71	0.30	2.00	4.00	6.28	6 2.07	+ 0.42	+80.62	5 7 23.11	— 3.17	B.
	4		D.	26.00	28.30	30.55	32.60	35.05						
	5		E.	54.55	57.64	0.30	3.00	5.90						
	6		A.	20.30	23.00	26.35	29.60	32.59						
	7		B.	55.00	57.00	59.80	2.78	5.00						
	8	β Tauri	C.	27.20	29.70	31.80	34.00	36.55	15 31.84	+ 0.35	+80.63	5 16 52.82	— 4.12	
	9		D.	59.00	1.20	3.70	6.20	9.00						
	10		E.	31.00	34.50	37.29	40.13	43.35						
	11		A.	0.30	2.50	5.30	8.40	11.00						
	12		B.	30.60	32.60	35.18	37.40	39.52						
	13	δ Orionis	C.	59.20	1.00	3.25	5.20	7.30	23 3.10	+ 0.40	+80.64	5 24 24.14	— 3.40	
	14		D.	26.55	29.00	31.20	33.40	35.67						
	15		E.	55.12	58.22	0.60	3.00	6.00						
	16	δ Ursæ Minoris, S. P.	C.	40.00	15.00	48.00	21.00	56.50	18 48.10	+ 0.31 + 1.43	+80.67	6 20 10.51	+33.73	
	17		A.	9.00	11.36	14.30	17.75	20.00						
	18		B.	40.70	43.00	45.38	48.00	50.00						
	19	α Canis Majoris	C.	10.30	12.48	14.59	16.80	18.80	37 14.59	+ 0.44	+80.68	6 38 35.71	— 3.38	
	20		D.	39.20	42.00	44.00	46.15	48.50						
	21		E.	9.00	11.80	14.62	17.00	20.15						
	22		A.	49.70	52.00	55.00	58.20	0.80						
	23		B.	21.41	23.50	26.10	28.50	30.80						
Feb. 6	24	α Tauri	C.	51.05	53.06	55.10	57.00	59.40	25 55.17	+ 0.37	+86.89	4 27 22.43	— 3.42	
	25		D.	19.62	22.25	24.60	26.71	29.00						
	26		E.	49.40	52.60	55.10	57.68	0.70						
	27		A.	44.00	47.68	51.60	55.80	59.60						
	28		B.	28.00	30.69	34.20	38.00	40.50						
	29	α Aurigæ	C.	8.60	11.40	14.30	17.20	20.19	4 14.41	+ 0.30	+86.91	5 5 41.62	— 4.76	
	30		D.	48.30	51.60	54.80	57.85	1.00						
	31		E.	29.00	33.40	37.00	40.60	45.00						
	32		A.	14.00	16.55	19.90	23.13	26.00						
	33		B.	48.70	50.75	53.60	56.49	58.60						
	34	β Tauri	C.	20.80	23.11	25.45	27.61	30.00	15 25.43	+ 0.35	+86.92	5 16 52.70	— 3.94	
	35		D.	52.38	55.00	57.50	59.60	2.38						
	36		E.	24.69	28.11	30.70	33.60	37.00						
	37		A.	53.74	56.20	59.00	2.00	4.60						
	38		B.	24.20	26.20	28.59	31.17	33.20						
	39	δ Orionis	C.	52.79	54.70	56.80	58.70	1.00	22 56.74	+ 0.40	+86.92	5 24 24.06	— 3.33	
	40		D.	20.20	22.71	24.72	27.00	29.29						
	41		E.	48.90	52.00	54.28	56.80	59.70						
	42		A.	9.20	11.70	14.50	17.55	20.20						
	43		B.	39.80	41.79	44.30	46.69	48.70						
	44	ε Orionis	C.	8.10	10.23	12.28	14.20	16.28	27 12.23	+ 0.41	+86.92	5 28 39.56	— 3.34	
	45		D.	35.80	38.18	40.20	42.40	44.80						
	46		E.	4.30	7.30	10.00	12.18	15.18						
	47		A.	32.55	35.41	39.00	42.49	45.59						
	48		B.	9.50	12.00	14.81	17.70	20.00						
	49	α Columbæ	C.	43.51	46.17	48.52	51.00	53.49	32 48.54	+ 0.48	+86.92	5 34 15.94	— 2.78	
	50		D.	17.10	20.00	22.30	25.00	27.80						
	51		E.	51.40	55.10	58.12	0.60	4.41						
	52		A.	36.00	38.40	41.20	44.20	46.80						
	53		B.	6.61	8.62	11.00	13.50	15.50						
	54	α Orionis	C.	35.40	37.50	39.49	41.50	43.60	45 39.41	+ 0.39	+86.93	5 47 6.73	— 3.59	
	55		D.	3.18	5.68	7.70	9.80	12.20						
	56		E.	32.00	35.00	37.30	40.00	43.00						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $5^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Jan. 31	+ 1 20.62	lg 0.040	+ 0.388	— 0.108	+ 0.03
Feb. 6	+ 1 26.91	lg 0.028	+ 0.388	— 0.108	+ 0.03

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	36.00	17.00	51.00	23.00	3.00						
Feb. 6	2	δ Ursæ Minoris, S. P.	C.	35.00	7.00	44.00	15.00	51.00	18 42.83	+ 0.31 + 1.43	+86.94	6 20 11.51	+32.36	B.
	3		D.	21.50	55.00	35.00	18.00	51.00						
	4		A.	2.75	5.40	8.20	11.30	14.10						
	5		B.	34.60	36.51	39.13	41.78	44.00						
	6	α Canis Majoris	C.	4.00	6.40	8.40	10.47	12.66	37 8.38	+ 0.44	+86.96	6 38 35.78	− 3.33	
	7		D.	33.00	35.45	37.60	39.80	42.20						
	8		E.	2.65	5.80	8.30	11.00	14.05						
	9		A.	48.00	50.30	53.30	56.41	59.20						
	10		B.	19.60	21.78	24.20	26.70	28.80						
11	11	α Tauri	C.	49.18	51.20	53.40	55.47	57.40	25 53.38	+ 0.37	+88.62	4 27 22.37	− 3.34	
	12		D.	18.00	20.50	22.68	24.75	27.10						
	13		E.	47.49	50.62	53.30	56.00	59.00						
	14	Orionis (1557)	A.	29.30	32.00	35.00	37.80	40.48	53 34.92	+59.63	+88.63	4 56 3.55	− 3.48	
	15		C.	37.37	39.50	41.60	43.70	45.79		+ 0.37				
	16	Orionis (1591)	D.	6.00	8.51	10.48	12.80	15.28	0 11.13	−29.60	+88.63	5 1 10.53	− 3.51	
	17		E.	35.50	38.60	41.18	43.80	46.80		+ 0.37				
	18		B.	20.80	23.00	25.41	27.82	29.90						
	19	β Orionis	C.	49.80	51.80	53.80	55.88	58.00	6 8.37	−14.54	+88.63	5 7 22.88	− 3.02	
	20		D.	17.70	20.00	22.30	24.30	26.76		+ 0.42				
	21		E.	46.55	49.60	52.00	54.52	57.50						
17	22	β Orionis	C.	46.39	48.39	50.50	52.51	54.45	5 50.45	+ 0.02 + 0.42	+91.95	5 7 22.84	− 2.93	
	23	β Tauri	C.	16.00	18.20	20.38	22.82	24.79	15 20.44	+ 0.02 + 0.35	+91.96	5 16 52.77	− 3.87	
	24	δ Orionis	C.	47.50	49.50	51.58	53.59	55.60	22 51.55	+ 0.02 + 0.40	+91.97	5 24 23.94	− 3.18	
	25		A.	4.00	6.60	9.11	12.45	15.10						
	26		B.	34.60	36.60	39.05	41.34	43.52						
	27	ε Orionis	C.	3.00	5.12	7.10	9.00	11.10	27 7.05	+ 0.41	+91.97	5 28 39.43	− 3.18	
	28		D.	30.65	33.00	35.10	37.38	39.50						
	29		E.	59.15	2.00	4.50	7.21	10.10						
	30		A.	57.40	59.80	2.76	6.00	8.60						
	31		B.	29.05	31.20	33.79	36.29	38.30						
	32	α Canis Majoris	C.	58.73	0.80	2.90	5.00	7.20	37 2.95	+ 0.44	+92.05	6 38 35.44	− 3.20	
	33		D.	27.56	30.20	32.17	34.38	37.00						
	34		E.	57.27	0.40	2.80	5.52	8.63						
	35	α^2 Geminorum	C.	28.70	31.00	33.20	35.60	38.15	23 33.33	+ 0.02	+92.10	7 25 5.79	− 4.47	
	36		A.	55.00	57.30	0.30	3.00	5.69		+ 0.34				
	37		B.	25.31	27.40	29.82	32.30	34.40						
	38	α Canis Minoris	C.	54.00	56.00	58.18	0.10	2.18	29 58.09	+ 0.39	+92.11	7 31 30.59	− 3.77	
	39		D.	21.85	24.25	26.30	28.42	31.00						
	40		E.	50.40	53.49	56.00	58.40	1.25						
	41		A.	28.10	30.70	34.00	37.50	40.45						
	42		B.	2.70	5.00	7.70	10.50	12.80						
	43	β Geminorum	C.	34.80	37.38	39.60	41.80	44.10	34 39.61	+ 0.35	+92.11	7 36 12.07	− 4.32	
	44		D.	6.40	9.30	11.80	14.00	16.78						
	45		E.	38.80	42.00	45.00	47.81	51.20						
	46		A.	29.00	31.50	34.10	37.15	39.79						
	47		B.	59.70	1.63	4.00	6.61	8.60						
18	48	α Orionis	C.	28.40	30.69	32.50	34.21	36.50	45 32.36	+ 0.39	+93.81	5 47 6.56	− 3.44	
	49		D.	56.00	58.52	0.80	2.80	5.00						
	50		E.	24.61	27.80	30.50	32 80	35.70						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $5^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Feb. 6	+ 1 26.91	lg 0.028	+ 0.389	− 0.108	+ 0.03
11	+ 1 28.63	lg 0.018	+ 0.389	− 0.108	+ 0.03
17	+ 1 31.94	lg 0.068	+ 0.389	− 0.108	+ 0.03
18	+ 1 33.77	lg 0.052	+ 0.388	− 0.108	+ 0.03

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	31.60	34.15	37.00	40.20	43.07						
	2		B.	4.60	6.45	9.10	12.00	14.30						
Feb. 18	3	δ Geminorum	C.	35.00	37.50	39.60	41.60	44.00	9 39.49	+ 0.36	+93.88	7 11 13.73	— 4.14	B.
	4		D.	4.85	7.60	9.70	12.00	14.60						
	5		E.	35.58	39.00	41.89	44.39	47.40						
	6		A.	17.30	20.05	23.40	27.00	30.10						
	7		B.	53.20	55.40	58.20	1.10	3.50						
	8	α^2 Geminorum	C.	26.80	29.39	31.50	34.00	36.30	23 31.52	+ 0.34	+93.89	7 25 5.75	— 4.47	
	9		D.	59.40	2.30	4.76	7.20	9.90						
	10		E.	33.19	36.50	39.40	42.20	45.90						
	11		A.	53.00	55.30	58.38	1.25	4.00						
	12		B.	23.30	25.70	28.10	30.54	32.50						
	13	α Canis Minoris	C.	52.30	54.00	56.40	58.25	0.40	29 56.25	+ 0.39	+93.89	7 31 30.53	— 3.76	
	14		D.	20.00	22.49	24.40	26.59	29.00						
	15		E.	48.60	51.51	54.19	56.55	59.40						
	16		B.	0.70	3.05	6.15	8.68	11.10						
	17	β Geminorum	C.	33.18	35.65	38.00	40.10	42.50	34 37.82	+ 0.02 + 0.35	+93.90	7 36 12.09	— 4.31	
	18		D.	4.51	7.29	9.70	12.00	14.70						
	19		A.	6.00	9.00	12.11	15.50	18.30						
	20		B.	40.90	43.15	45.80	48.30	50.80						
19	21	β Tauri	C.	13.10	15.40	17.59	19.89	22.29	15 17.65	+ 0.35	+94.57	5 16 52.57	— 3.84	
	22		D.	44.40	47.12	49.49	52.00	54.59						
	23		E.	16.80	20.30	23.20	26.00	29.20						
	24		A.	45.80	48.30	51.10	54.30	56.77						
	25		B.	16.40	18.30	20.80	23.27	25.25						
	26	δ Orionis	C.	44.82	46.89	48.90	50.90	53.00	22 48.84	+ 0.40	+94.57	5 24 23.81	— 3.15	
	27		D.	12.30	14.90	17.00	18.90	21.35						
	28		E.	41.00	44.00	46.30	48.90	51.70						
	29		A.	1.39	3.90	6.70	9.74	12.30						
	30		B.	31.70	33.90	36.40	38.70	40.70						
	31	ε Orionis	C.	0.40	2.35	4.32	6.39	8.40	27 4.39	+ 0.41	+94.57	5 28 39.37	— 3.15	
	32		D.	28.00	30.50	32.59	34.80	37.00						
	33		E.	56.39	59.50	2.00	4.50	7.15						
	34		A.	28.28	30.70	33.47	36.40	39.10						
	35		B.	59.00	0.80	3.40	5.70	8.00						
	36	α Orionis	C.	27.52	29.59	31.57	33.61	35.85	45 31.63	+ 0.39	+94.58	5 47 6.60	— 3.42	
	37		D.	55.46	57.80	59.80	2.00	4.40						
	38		E.	24.20	27.20	29.59	32.10	35.15						
	39		B.	14.10	16.40	19.00	21.38	23.38						
22	40	β Orionis	C.	43.30	45.29	47.37	49.34	51.37	5 47.30	+ 0.02 + 0.42	+94.97	5 7 22.71	— 2.84	
	41		D.	11.18	13.59	15.65	18.00	20.25						
	42		A.	5.52	8.34	11.60	15.00	18.00						
	43		B.	40.30	42.50	45.37	48.21	50.40						
	44	β Tauri	C.	12.59	14.80	17.20	19.50	22.00	15 17.22	+ 0.35	+94.97	5 16 52.54	— 3.78	
	45		D.	44.10	46.78	49.19	51.49	54.19						
	46		E.	16.40	19.84	22.80	25.49	29.00						
	47		A.	45.50	47.85	50.70	53.85	56.30						
	48		B.	16.00	18.00	20.38	22.80	25.00						
	49	δ Orionis	C.	44.48	46.40	48.40	50.39	52.35	22 48.44	+ 0.40	+94.97	5 24 23.81	— 3.11	
	50		D.	12.00	14.59	16.55	18.60	20.80						
	51		E.	40.40	43.74	46.00	48.40	51.45						
	52		A.	1.00	3.33	6.20	9.25	11.80						
	53		B.	31.50	33.48	35.90	38.33	40.32						
	54	ε Orionis	C.	59.90	2.00	3.90	5.90	7.90	27 3.95	+ 0.41	+94.97	5 28 39.33	— 3.11	
	55		D.	27.60	30.00	31.90	34.11	36.38						
	56		E.	56.00	59.20	1.60	4.15	7.00						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $5^{h.}\ 0^{m.}$				
	m. s.	s.	s.	s.	s.
Feb. 18	+ 1 33.77	lg 0.052	+ 0.388	— 0.108	+ 0.03
19	+ 1 34.56	lg 0.025	+ 0.388	— 0.108	+ 0.03
22	+ 1 34.97	g 0.006	+ 0.388	— 0.108	+ 0.03

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
Feb. 22	1	α Columbæ	C.	35.20	37.62	40.24	42.58	45.05	32 40.14	+ 0.02	+94.97	5 34 15.61	— 2.45	B.
	2		A.	27.50	30.11	32.90	36.00	38.43		+ 0.48				
	3		B.	58.40	0.40	2.90	5.40	7.40						
	4	α Orionis	C.	26.90	29.18	31.19	33.20	35.15	45 31.14	+ 0.39	+94.97	5 47 6.50	— 3.38	
	5		D.	55.00	57.36	59.45	1.55	4.00						
	6		E.	23.72	26.70	29.30	31.69	34.70						
	7		A.	58.00	46.00	27.50	9.00	5.00						
	8		B.	29.50	9.50	45.50	19.00	0.50						
	9	δ Ursæ Minoris, S. P.	C.	29.50	3.00	37.50	11.50	42.00	18 37.60	+ 1.43	+94.96	6 20 13.99	—28.08	
	10		D.	15.00	49.50	29.00	10.50	44.50						
	11		E.	17.00	59.00	48.50	35.50	18.50						
	12		A.	37.50	40.32	43.30	46.55	49.50						
	13		B.	10.90	13.38	16.10	18.80	20.90						
	14	Metis	C.	42.70	44.90	47.12	49.20	51.38	20 47.04	+ 0.35	+94.94	9 22 22.33	- - -	
	15		D.	13.22	15.80	18.19	20.37	23.23						
	16		E.	44.30	47.80	50.68	53.30	56.51						
	17		A.	39.60	41.90	45.20	48.50	51.30						
	18		B.	13.00	15.00	17.88	20.50	22.60						
	19	ε Leonis	C.	44.15	46.30	48.70	51.00	53.18	35 48.66	+ 0.36	+94.94	9 37 23.96	— 4.26	
	20		D.	14.60	17.38	19.52	21.89	24.50						
	21		E.	46.00	49.20	51.88	54.65	58.00						
25	22	β Tauri	C.	13.60	16.00	18.20	20.57	23.00	15 18.27	+ 0.02 + 0.35	+93.85	5 16 52.49	— 3.72	
	23	δ Orionis	C.	45.40	47.44	49.52	51.70	53.65	22 49.54	+ 0.02 + 0.40	+93.85	5 24 23.81	— 3.05	
	24		A.	2.00	4.30	7.15	10.30	12.70						
	25		B.	32.50	34.60	37.00	39.39	41.35						
	26	ε Orionis	C.	1.00	3.10	5.15	7.00	9.30	27 5.02	+ 0.41	+93.85	5 28 39.28	— 3.05	
	27		D.	28.65	31.10	33.20	35.29	37.60						
	28		E.	57.20	0.20	2.60	5.00	7.90						
	29		A.	25.00	27.81	31.38	35.20	38.05						
	30		B.	2.00	4.48	7.50	10.28	12.70						
	31	α Columbæ	C.	36.00	38.67	41.40	43.77	46.30	32 41.19	+ 0.48	+93.85	5 34 15.52	— 2.38	
	32		D.	9.80	12.51	15.00	17.62	20.55						
	33		E.	44.18	47.79	50.75	53.80	57.21						
	34		B.	59.40	1.50	4.00	6.49	8.39						
	35	α Orionis	C.	28.07	30.20	32.20	34.22	36.30	45 32.23	+ 0.02 + 0.39	+93.85	5 47 6.49	— 3.33	
	36		D.	55.90	58.35	0.60	2.68	5.10						
	37		A.	1.00	50.00	30.50	12.50	4.50						
	38	δ Ursæ Minoris, S. P.	B.	32.50	13.50	49.00	24.00	4.00	10 0.00	+480.57 + 1.43	+93.85	6 20 15.82	+27.24	
	39		C.	30.00	6.00	37.00	15.00	50.00						
	40		A.	55.30	57.82	0.80	4.00	6.40						
	41		B.	27.10	29.11	31.79	34.20	36.30						
26	42	α Canis Majoris	C.	56.63	59.00	1.00	3.22	5.20	37 0.94	— 0.01	+94.25	6 38 35.18	— 3.06	
	43		D.	25.60	28.00	30.15	32.30	34.80						
	44		E.	55.20	58.38	1.00	3.67	6.58						
	45		B.	35.40	37.75	40.40	43.20	45.52						
	46	ε Canis Majoris	C.	8.10	10.30	12.41	14.70	17.18	51 28.88	—16.42	+94.26	6 52 46.65	— 2.99	
	47		D.	39.35	42.20	44.41	46.88	49.50		— 0.07				
	48		E.	11.89	15.20	18.11	20.90	24.30						
	49	δ Geminorum	C.	34.80	37.07	39.20	41.30	43.62	9 39.20	+ 0.02 + 0.15	+94.26	7 11 13.63	— 4.04	
	50		A.	17.10	20.00	23.20	26.50	29.60						
	51		B.	52.70	55.12	58.11	1.00	3.21						
	52	α^2 Geminorum	C.	26.59	28.90	31.30	33.78	36.00	23 31.28	+ 0.20	+94.27	7 25 5.75	— 4.37	
	53		D.	59.10	2.00	4.40	7.00	9.72						
	54		E.	33.07	36.56	39.41	42.10	45.62						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Feb. 22	+ 1 34.96	g 0.006	+ 0.389	— 0.108	+ 0.03
25	+ 1 33.86	lg 0.007	+ 0.388	— 0.108	+ 0.03
26	+ 1 34.26	lg 0.017	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	52.88	55.38	58.28	1.25	3.81						
	2		B.	23.60	25.50	27.90	30.29	32.45						
Feb. 26	3	α Canis Minoris	C.	52.15	54.18	56.35	58.20	0.30	29 56.16	+ 0.08	+94.27	7 31 30.51	− 3.68	B.
	4		D.	19.90	22.20	24.40	26.43	28.90						
	5		E.	48.45	51.50	53.90	56.33	59.45						
	6		A.	56.00	59.35	2.70	6.80	10.10						
	7		B.	35.50	38.30	41.40	44.60	47.20						
	8	Weisse, 2, VII. 1212	C.	12.40	15.20	17.80	20.50	23.20	44 17.83	+ 0.25	+94.27	7 45 52.35	− 4.76	
	9		D.	48.34	51.60	54.41	56.90	0.20						
	10		E.	25.68	29.50	32.70	35.80	39.48						
	11		B.	3.00	5.52	8.61	11.65	14.10						
	12	Rümker (2390)	C.	38.42	40.90	43.45	46.10	48.51	55 1.44	−17.94	+94.28	7 56 18.01	− 4.65	
	13		D.	13.00	15.89	18.50	21.26	24.10		+ 0.23				
	14		E.	48.31	52.00	55.25	58.19	2.00						
	15		A.	15.90	18.45	21.00	24.20	26.80						
	16		B.	46.50	48.58	51.00	53.50	55.50						
	17	ε Hydræ	C.	15.22	17.10	19.25	21.30	23.61	37 19.28	+ 0.09	+94.29	8 38 53.66	− 3.93	
	18		D.	43.00	45.55	47.50	49.60	52.10						
	19		E.	11.75	14.82	17.30	19.78	22.71						
	20		B.	45.40	47.59	50.20	53.00	55.15						
	21	Metis	C.	16.60	19.10	21.30	23.40	25.60	17 21.26	+ 0.02	+94.30	9 18 55.75	- - -	
	22		D.	47.30	50.00	52.30	54.57	57.40		+ 0.17				
	23	Dec. + 25° 4′	B.	46.20	48.40	51.00	53.79	56.00	21 38.28	−16.30	+94.30	9 22 56.45	− 4.32	
	24		E.	19.30	22.80	25.58	28.30	31.40		+ 0.17				
	25	Dec. + 25° 4′	D.	55.00	58.00	0.10	2.20	4.85	22 0.03	−30.95	+94.30	9 23 3.55	− 4.31	
	26		A.	40.30	43.10	46.20	49.40	52.25		+ 0.17				
	27		B.	14.00	16.20	18.80	21.35	23.58						
	28	ε Leonis	C.	45.20	47.40	49.49	51.79	54.00	35 49.55	+ 0.16	+94.30	9 37 24.01	− 4.27	
	29		D.	15.50	18.10	20.50	22.72	25.28						
	30		E.	46.85	49.90	52.70	55.45	58.60						
Mar. 3	31	α Orionis	C.	25.49	27.69	29.80	31.69	33.72	45 29.68	+ 0.02	+96.74	5 47 6.53	− 3.23	
	32		A.	53.00	55.50	58.40	1.70	4.30		+ 0.09				
	33		B.	24.39	26.60	29.30	32.00	34.19						
	34	α Canis Majoris	C.	54.29	56.49	58.60	0.70	3.00	36 58.55	− 0.01	+96.79	6 38 35.33	− 2.98	
	35		D.	23.00	25.51	27.90	29.90	32.70						
	36		E.	52.70	55.70	58.30	1.09	4.40						
	37		A.	58.20	1.15	4.22	7.48	10.39						
	38		B.	33.00	35.28	38.00	40.78	43.00						
	39	ε Canis Majoris	C.	5.00	7.82	10.10	12.35	14.69	51 9.97	− 0.07	+96.80	6 52 46.70	− 2.90	
	40		D.	37.00	39.60	42.00	44.33	47.10						
	41		E.	9.30	12.50	15.60	18.52	21.80						
	42		C.	25.90	28.28	30.18	32.71	35.00						
	43	Canis Majoris (2368)	D.	56.28	59.25	1.48	3.73	6.45	5 2.00	−31.67	+96.81	7 6 7.08	− 3.04	
	44		E.	28.11	31.49	34.20	36.80	40.15		− 0.06				
	45		A.	43.00	45.80	48.60	52.10	54.78						
	46		B.	16.42	18.48	21.20	23.90	26.19						
	47	Canis Majoris (2417)	C.	47.42	49.80	52.00	54.00	56.39	10 51.92	− 0.05	+96.82	7 12 28.69	− 3.11	
	48		D.	17.55	20.30	22.45	24.90	27.50						
	49		E.	49.00	52.39	55.00	57.70	1.00						
	50		A.	14.00	17.12	20.20	23.20	27.00						
	51		B.	50.17	52.60	55.30	58.00	0.60						
	52	α^2 Geminorum	C.	23.72	26.10	28.49	31.00	33.58	23 28.51	+ 0.20	+96.83	7 25 5.54	− 4.30	
	53		D.	56.38	59.40	2.00	4.11	7.09						
	54		E.	30.00	33.59	36.51	39.11	43.00						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Feb. 26	+ 1 34.26	lg 0.017	+ 0.073	+ 0.236	0.00
Mar. 3	+ 1 36.81	lg 0.053	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	50.20	52.60	55.70	58.60	1.10						
	2		B.	21.00	23.00	25.52	27.80	30.10						
Mar. 3	3	α Canis Minoris - - -	C.	49.38	51.58	53.40	55.60	57.85	29 53.55	+ 0.08	+96.84	7 31 30.47	— 3.63	B.
	4		D.	17.30	19.79	21.71	24.10	26.30						
	5		E.	45.80	48.80	51.20	53.75	56.55						
	6		B.	57.60	59.80	3.00	6.00	8.00						
	7	β Geminorum - - -	C.	30.12	32.40	35.00	37.40	39.49	34 34.87	+ 0 02 + 0.18	+96.84	7 36 11.91	— 4.17	
	8		D.	2.00	4.30	6.80	9.20	12.00						
	9		A.	24.00	26.60	29.62	33.10	35.59						
	10		B.	57.40	59.80	2.58	5.00	7.00						
	11	Metis - - - - - -	C.	29.00	31.20	33.48	35.52	38.10	13 33.44	+ 0.17	+96.93	9 15 10.54	- - -	
	12		D.	59.50	2.20	4.60	6.81	9.49						
	13		E.	31.00	34.40	37.00	39.85	43.18						
	14		A.	10.08	12.70	15.78	19.10	21.80						
	15		B.	43.60	46.00	48.40	51.20	53.60						
	16	Dec. + 25° 4′ - - -	C.	15.29	17.30	19.62	22.00	24.10	21 19.53	+ 0.17	+96.93	9 22 56.63	— 4.29	
	17		D.	45.47	48.11	50.60	52.85	55.22						
	18		E.	17.12	20.33	23.00	25.79	29.10						
	19		B.	50.80	53.00	55.49	58.20	0.50						
	20	Dec. + 25° 4′ - - -	C.	22.00	24.26	26.42	28.70	31.00	27 26.51	+ 0.02 + 0.17	+96.94	9 29 3.64	— 4.29	
	21		D.	52.40	55.00	57.40	59.80	2.60						
	22		A.	37.50	40.10	43.21	46.80	49.35						
	23		B.	11.19	13.11	16.00	19.00	21.05						
	24	ε Leonis - - - - -	C.	42.50	44.70	47.00	49.25	51.40	35 46.86	+ 0.16	+96.95	9 37 23.97	— 4.27	
	25		D.	12.90	15.45	17.95	20.20	22.74						
	26		E.	44.00	47.60	50.08	52.59	55.84						
	27		A.	56.50	59.33	2.60	6.00	8.93						
	28		B.	31.32	33.69	36.40	39.21	41.43						
4	29	ε Canis Majoris - - -	C.	3.87	6.06	8.23	10.62	13.00	51 8.37	— 0.08	+98.24	6 52 46.53	— 2.88	*K.
	30		D.	35.30	38.00	40.27	42.80	45.47						
	31		E.	7.81	11.29	14.00	17.00	20.07						
	32		C.	31.00	33.00	35.23	37.17	39.60						
	33	δ Geminorum - - -	D.	0.70	3.20	5.40	7.86	10.40	10 6.02	−30.84 + 0.15	+98.26	7 11 13.59	— 3.96	
	34		E.	31.51	34.62	37.41	40.10	43.15						
	35		A.	12.78	15.70	19.00	22.49	25.56						
	36		B.	48.72	51.12	54.06	56.89	59.24						
	37	α^2 Geminorum - - -	C.	22.30	24.70	27.10	29.49	31.90	23 27.14	+ 0.20	+98.27	7 25 5.61	— 4.29	
	38		D.	55.13	57.90	0.27	2.70	5.57						
	39		E.	28.60	32.31	35.13	38.13	41.60						
	40		A.	49.03	51.30	54.19	57.12	59.66						
	41		B.	19.52	21.50	24.00	26.43	28.40						
	42	α Canis Minoris - - -	C.	48.09	50.18	52.07	54.00	56.23	29 52.11	+ 0.08	+98.28	7 31 30.47	— 3.61	
	43		D.	15.86	18.29	20.28	22.43	24.81						
	44		E.	44.30	47.50	50.00	52.42	55.30						
	45		A.	22.00	24.84	28.00	31.41	34.24						
	46		B.	56.70	59.00	1.73	4.49	6.79						
	47	β Geminorum - - -	C.	29.00	31.23	33.47	35.74	38.14	34 33.55	+ 0.18	+98.28	7 36 12.01	— 4.16	
	48		D.	0.49	3.10	5.40	7.89	10.50						
	49		E.	32.70	36.14	39.00	41.79	45.00						
	50		A.	4.10	6.75	10.00	13.17	16.00						
	51		B.	37.71	40.00	42.90	45.31	47.72						
8	52	Dec. + 25° 39′ - -	C.	9.51	11.81	13.85	16.20	18.50	13 13.94	+ 0.17	+100.55	9 14 54.66	— 4.26	B.
	53		D.	40.15	42.80	45.00	47.62	50.20						
	54		E.	11.62	15.15	18.00	20.60	23.80						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 7h. 0m.				
	m. s.	s.	s.	s.	s.
Mar. 3	+ 1 36.81	lg 0.053	+ 0.073	+ 0.236	0.00
4	+ 1 38.25	lg 0.053	+ 0.073	+ 0.236	0.00
8	+ 1 40.55	lg 0.000	+ 0.073	+ 0.236	0.00

* The letter K in the column headed Observer indicates Professor Keith.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	32.50	35.05	38.00	40.80	43.50						
Mar. 8	2		B.	3.19	5.41	7.85	10.30	12.25						
	3	α Hydræ	C.	32.00	34.12	36.16	38.12	40.18	18 36.11	+ 0.02	+100.55	9 20 16.68	— 3.81	B.
	4		D.	59.80	2.35	4.65	6.60	9.00						
	5		E.	28.59	31.80	34.28	36.65	39.65						
	6		A.	34.00	36.71	39.80	43.18	45.83						
	7		B.	7.35	9.88	12.40	15.00	17.20						
	8	ε Leonis	C.	38.75	41.00	43.25	45.30	47.50	35 43.16	+ 0.16	+100.55	9 37 23.87	— 4.25	
	9		D.	9.00	11.70	14.11	16.35	19.00						
	10		E.	40.15	43.60	46.59	49.00	52.30						
	11		A.	41.78	44.18	47.10	50.10	52.70						
	12		B.	12.80	15.00	17.46	20.00	22.10						
	13	α Leonis	C.	42.00	44.09	46.15	48.18	50.20	58 46.16	+ 0.11	+100.55	10 0 26.82	— 4.05	
	14		D.	10.30	12.85	14.87	17.10	19.42						
	15		E.	39.40	42.64	45.20	47.80	50.58						
	16		A.	5.30	7.90	11.00	14.20	17.00						
	17		B.	38.29	40.38	42.93	45.47	48.00						
10	18	μ Geminorum	C.	9.10	11.29	13.24	15.50	17.77	14 13.39	+ 0.15	—16.72	6 13 56.82	— 3.62	K.
	19		D.	38.91	41.58	43.67	46.07	48.49						
	20		E.	9.84	13.00	15.79	18.47	21.49						
	21		A.	46.00	48.80	51.41	54.80	57.39						
	22		B.	18.00	20.10	22.47	25.00	27.13						
	23	α Canis Majoris	C.	47.74	49.82	51.79	54.00	56.00	38 51.80	— 0.01	—16.71	6 38 35.08	— 2.86	
	24		D.	16.41	18.73	21.10	23.20	25.89						
	25		E.	46.15	49.29	51.89	54.32	57.49						
	26		A.	51.69	54.44	57.69	1.08	3.87						
	27		B.	26.45	28.63	31.39	34.29	36.57						
	28	ε Canis Majoris	C.	58.88	1.10	3.38	5.72	8.08	53 3.45	— 0.07	—16.71	6 52 46.67	— 2.76	
	29		D.	30.30	33.10	35.48	37.78	40.49						
	30		E.	2.81	6.19	9.00	11.80	16.12						
	31		A.	22.00	24.68	27.76	31.00	33.85						
	32		B.	54.79	57.09	59.69	2.39	4.72						
	33	δ Geminorum	C.	25.69	28.00	30.05	32.09	34.23	11 30.06	+ 0.15	—16.71	7 11 13.50	— 3.87	
	34		D.	55.60	58.19	0.27	2.91	5.27						
	35		E.	26.29	29.60	32.23	35.00	38.19						
	36		A.	5.00	7.60	10.75	14.00	16.70						
	37		B.	38.00	40.10	42.82	45.39	47.48						
11	38	μ Geminorum	C.	8.80	11.00	13.20	15.31	17.57	14 13.15	+ 0.15	—16.58	6 13 56.72	— 3.61	B.
	39		D.	38.71	41.31	43.52	45.80	48.43						
	40		E.	9.50	12.70	15.48	18.27	21.31						
	41		A.	20.10	22.79	26.00	29.20	32.00						
	42		B.	53.70	55.88	58.45	1.10	3.18						
	43	Moon, 1st L.	C.	24.80	27.00	29.12	31.51	33.68	19 29.19	+ 0.15	—16.58	6 20 24.16	. . .	
	44		D.	55.00	57.70	0.30	2.30	4.80						
	45		E.	26.32	29.48	32.31	35.00	38.00						
	46		A.	46.11	48.49	51.59	54.51	57.29						
	47		B.	17.70	20.00	22.59	25.00	27.10						
	48	α Canis Majoris	C.	47.50	49.62	51.60	53.79	55.80	38 51.65	— 0.01	—16.58	6 38 35.06	— 2.84	
	49		D.	16.20	18.73	21.00	23.08	25.48						
	50		E.	46.00	49.10	51.55	54.11	57.19						
	51		A.	51.40	54.12	57.30	0.85	3.59						
	52		B.	26.20	28.42	31.30	34.00	36.20						
	53	ε Canis Majoris	C.	58.59	0.80	3.19	5.40	7.80	53 3.16	— 0.07	—16.58	6 52 46.51	— 2.74	
	54		D.	30.10	32.82	35.11	37.65	40.30						
	55		E.	2.55	5.90	8.80	11.60	15.00						

18. March 10, at 6^h, set the clock 2 minutes forward.
7. Adopted Correction for Semidiameter = + 71^s. 40.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Mar. 8	+ 1 40.55	lg 0.000	+ 0.073	+ 0.236	0.00
10	— 0 16.71	lg 0.012	+ 0.073	+ 0.236	0.00
11	— 0 16.58	g 0.003	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Cloek.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	52. 68	55. 53	58. 67	2. 00	4. 80						
	2		B.	26. 80	29. 00	31. 60	34. 37	36. 70						
Mar. 11	3	Canis Majoris (2391)	C.	58. 42	0. 70	3. 00	5. 25	7. 70	9 3. 02	— 0. 06	—16. 58	7 8 46. 38	— 2. 90	B.
	4		D.	29. 32	32. 13	34. 40	36. 60	39. 28						
	5		E.	1. 20	4. 55	7. 35	10. 12	13. 38						
	6		A.	39. 38	42. 18	45. 30	48. 59	51. 32						
	7		B.	13. 08	15. 20	18. 00	20. 60	22. 80						
	8	Canis Majoris (2418)	C.	44. 36	46. 55	48. 70	50. 90	53. 38	12 48. 76	— 0. 05	—16. 58	7 12 32. 13	— 2. 96	
	9		D.	14. 50	17. 31	19. 70	22. 00	24. 64						
	10		E.	46. 10	49. 45	52. 20	54. 74	58. 08						
	11		A.	7. 78	10. 45	13. 70	17. 32	20. 20						
	12		B.	43. 50	45. 80	48. 80	51. 60	53. 90						
	13	α^2 Geminorum - - -	C.	17. 11	19. 62	22. 00	24. 38	26. 59	25 21. 92	+ 0. 20	—16. 58	7 25 5. 54	— 4. 18	
	14		D.	49. 55	52. 69	55. 10	57. 55	0. 30						
	15		E.	23. 50	27. 15	30. 00	33. 00	36. 40						
	16		A.	43. 70	46. 10	49. 00	52. 00	54. 36						
	17		B.	14. 20	16. 38	18. 62	21. 18	23. 15						
	18	α Canis Minoris - - -	C.	42. 90	45. 00	47. 00	49. 00	51. 00	31 46. 87	+ 0. 08	—16. 58	7 31 30. 37	— 3. 51	
	19		D.	10. 61	13. 00	15. 00	17. 13	19. 50						
	20		E.	39. 12	42. 12	44. 65	47. 13	50. 00						
	21		A.	16. 60	19. 42	22. 51	26. 00	29. 00						
	22		B.	51. 28	53. 50	56. 35	59. 30	1. 40						
	23	β Geminorum - - -	C.	23. 74	26. 00	28. 27	30. 56	32. 89	36 28. 22	+ 0. 18	—16. 58	7 36 11. 82	— 4. 05	
	24		D.	55. 15	57. 82	0. 00	2. 45	5. 18						
	25		E.	27. 39	30. 89	33. 62	36. 44	39. 70						
	26		A.	16. 59	19. 09	22. 39	25. 09	28. 00						
	27		B.	48. 87	51. 00	53. 90	56. 50	58. 41						
12	28	ν Geminorum - - -	C.	19. 27	21. 50	23. 60	25. 68	27. 89	20 23. 63	+ 0. 14	—16. 82	6 20 6. 95	— 3. 51	K.
	29		D.	48. 87	51. 19	53. 60	55. 84	58. 37						
	30		E.	19. 15	22. 39	25. 12	27. 60	30. 83						
	31		A.	46. 39	49. 10	51. 91	55. 00	57. 20						
	32	α Canis Majoris - - -	B.	18. 00	20. 00	22. 70	25. 30	27. 12	38 22. 17	+29. 78 — 0. 01	—16. 82	6 38 35. 12	— 2. 82	
	33		C.	47. 74	50. 00	52. 00	54. 00	56. 13						
	34		A.	51. 60	54. 37	57. 55	1. 00	3. 00						
	35		B.	26. 37	28. 78	31. 31	34. 34	36. 53						
	36	ϵ Canis Majoris - - -	C.	58. 86	1. 10	3. 36	5. 53	7. 88	53 3. 37	— 0. 07	—16. 82	6 52 46. 48	— 2. 72	
	37		D.	30. 23	33. 20	35. 50	37. 60	40. 70						
	38		E.	2. 77	6. 30	9. 20	11. 86	15. 20						
	39		A.	22. 21	24. 80	28. 00	31. 19	33. 90						
	40		B.	55. 10	57. 29	59. 92	2. 70	4. 80						
	41	δ Geminorum - - -	C.	26. 00	28. 19	30. 49	32. 38	34. 67	11 30. 26	+ 0. 15	—16. 82	7 11 13. 59	— 3. 84	
	42		D.	55. 62	58. 40	0. 51	2. 89	5. 37						
	43		E.	26. 53	29. 86	32. 43	35. 10	38. 14						
	44		B.	17. 90	20. 00	22. 51	25. 08	27. 11						
13	45	α Canis Majoris - - -	C.	47. 40	49. 76	51. 73	53. 80	56. 08	38 51. 78	+ 0. 02 — 0. 01	—16. 75	6 38 35. 04	— 2. 80	B.
	46		D.	16. 30	19. 00	21. 05	23. 24	25. 80						
	47		A.	51. 43	54. 30	57. 43	1. 00	3. 70						
	48		B.	26. 20	28. 50	31. 30	34. 10	36. 31						
	49	ϵ Canis Majoris - - -	C.	58. 68	1. 00	3. 28	5. 70	7. 79	53 3. 27	— 0. 07	—16. 75	6 52 46. 45	— 2. 70	
	50		D.	30. 21	33. 00	35. 40	37. 80	40. 28						
	51		E.	2. 80	6. 07	8. 90	11. 60	14. 90						
	52		A.	17. 48	20. 00	23. 00	26. 10	28. 68						
	53		B.	49. 13	51. 20	53. 85	56. 29	58. 40						
	54	Geminorum (2486) -	C.	18. 63	20. 90	23. 00	25. 00	27. 20	25 22. 94	+ 0. 13	—16. 75	7 25 6. 32	— 3. 74	
	55		D.	47. 55	50. 00	52. 12	54. 30	56. 90						
	56		E.	17. 0	20. 20	22. 80	25. 40	28. 42						

CORRECTIONS, &c.

Date.	Error of Cloek.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Mar. 11	— 0 16. 58	g 0. 003	+ 0. 073	+ 0. 236	0. 00
12	— 0 16. 82	g 0. 004	+ 0. 073	+ 0. 236	0. 00
13	— 0 16. 75	lg 0. 006	+ 0. 073	+ 0. 236	0. 00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	43.58	46.18	49.10	52.00	54.61						
	2		B.	14.42	16.40	18.90	21.30	23.40						
Mar. 13	3	α Canis Minoris - - -	C.	43.10	45.00	47.17	49.00	51.10	31 47.00	+ 0.08	−16.75	7 31 30.33	− 3.48	B.
	4		D.	10.79	13.11	15.20	17.30	19.80						
	5		E.	39.28	42.30	44.75	47.22	50.15						
	6		A.	16.70	19.58	23.00	26.19	29.10						
	7		B.	51.37	53.70	56.50	59.30	1.51						
	8	β Geminorum - - -	C.	23.80	26.20	28.20	30.80	33.00	36 28.37	+ 0.18	−16.75	7 36 11.80	− 4.02	
	9		D.	55.18	57.78	0.30	2.62	5.28						
	10		E.	27.68	31.00	33.80	36.58	40.00						
	11		A.	51.00	53.50	56.61	59.90	2.52						
	12		B.	23.80	26.23	29.00	31.40	33.58						
	13	Moon, 1st L. - - -	C.	54.80	57.08	59.00	1.42	3.79	25 59.27	+ 0.14	−16.74	8 26 55.39	- - -	
	14		D.	24.87	27.61	29.68	32.00	34.52						
	15		E.	55.78	59.30	2.00	4.63	7.70						
	16		A.	23.40	26.00	29.00	32.18	34.90						
	17		B.	55.55	57.62	0.30	2.90	4.90						
	18	δ Cancri - - - - -	C.	25.51	27.79	29.65	31.90	34.00	36 29.82	+ 0.14	−16.74	8 36 13.22	− 4.03	
	19		D.	54.70	57.11	59.40	1.61	4.41						
	20		E.	24.81	27.90	30.50	33.00	36.37						
	21		A.	32.80	35.40	38.20	41.20	43.90						
	22		B.	4.00	6.25	8.60	11.10	13.10						
	23	α Cancri - - - - -	C.	33.10	35.28	37.30	39.40	41.50	50 37.29	+ 0.11	−16.74	8 50 20.66	− 3.96	
	24		D.	1.40	3.90	6.05	8.20	10.57						
	25		E.	30.50	33.72	36.20	38.80	41.90						
	26		A.	0.30	2.70	5.90	9.25	11.70						
	27		B.	33.70	36.05	38.80	41.42	43.80						
	28	Metis - - - - -	C.	5.40	7.60	9.70	12.20	14.30	10 9.81	+ 0.17	−16.73	9 9 53.25	- - -	
	29		D.	36.20	38.61	40.81	43.35	46.10						
	30		E.	7.30	10.80	13.48	16.25	19.50						
	31		A.	13.39	16.00	19.29	22.49	25.36						
	32		B.	47.10	49.32	52.00	54.69	56.93						
14	33	Canis Majoris (2368)	C.	18.70	20.92	23.10	25.30	27.60	6 23.19	− 0.06	−16.53	7 6 6.60	− 2.85	K.
	34		D.	49.47	52.05	54.20	56.60	59.32						
	35		E.	20.81	24.30	27.04	29.82	33.00						
	36		A.	52.29	55.15	58.30	1.71	4.50						
	37		B.	26.43	28.59	31.52	34.13	36.22						
	38	Canis Majoris (2391)	C.	58.20	0.40	2.80	4.91	7.10	9 2.71	− 0.06	−16.53	7 8 46.12	− 2.85	
	39		D.	29.10	31.80	34.00	36.50	39.00						
	40		E.	0.82	4.19	7.08	9.90	13.09						
	41		C.	25.50	27.74	29.70	31.83	34.07		−30.84				
	42	δ Geminorum - - -	D.	55.20	57.80	0.10	2.40	5.00	12 0.59	+ 0.15	−16.53	7 11 13.37	− 3.80	
	43		E.	25.91	29.18	32.00	34.66	37.76						
	44		A.	7.39	10.29	13.58	17.12	20.08						
	45		B.	43.33	45.67	48.59	51.47	53.56						
	46	α^2 Geminorum - - -	C.	17.00	19.32	21.79	24.09	26.60	25 21.69	+ 0.20	−16.53	7 25 5.36	− 4.13	
	47		D.	49.40	52.33	54.70	57.30	0.11						
	48		E.	23.34	26.63	29.72	32.73	36.20						
	49		A.	43.48	45.69	48.69	51.76	54.28						
	50		B.	14.10	16.08	18.60	21.09	23.08						
	51	α Canis Minoris - - -	C.	42.70	44.77	46.66	48.70	50.71	31 46.69	+ 0.08	−16.53	7 31 30.24	− 3.47	
	52		D.	10.42	13.00	14.88	16.90	19.20						
	53		E.	39.00	42.00	44.40	47.00	50.00						
	54		C.	24.50	26.80	28.87	31.09	33.33		−31.21				
	55	15 Argus - - - - -	D.	54.63	57.29	59.50	1.90	4.47	2 0.12	− 0.05	−16.52	8 1 12.34	− 3.21	
	56		E.	25.79	29.25	32.13	34.51	37.79						

13. Adopted Correction for Semidiameter = + 72s. 72.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 7h. 0m.				
	m. s.	s.	s.	s.	s.
Mar. 13	− 0 16.75	lg 0.006	+ 0.073	+ 0.236	0.00
14	− 0 16.53	lg 0.008	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		C.	25.46	27.40	29.58	31.50	33.80						
Mar. 14	2	δ Cancri	D.	54.56	57.15	59.30	1.31	4.00	36 59.75	−30.13 + 0.14	−16.52	8 36 13.24	− 4.02	K.
	3		E.	24.43	27.83	30.46	33.00	36.00						
	4		A.	32.70	35.80	38.13	41.10	43.60						
	5		B.	3.80	5.90	8.20	10.85	12.79						
	6	α Cancri	C.	33.00	35.10	37.20	39.00	41.21	50 37.07	+ 0.11	−16.51	8 50 20.67	− 3.95	
	7		D.	1.19	3.18	5.79	7.90	10.40						
	8		E.	30.30	33.49	36.09	38.59	41.40						
	9		A.	32.48	35.23	38.30	41.40	44.00						
	10		B.	5.21	7.32	9.87	12.57	14.53						
	11	Moon, 1st L.	C.	35.69	37.66	39.69	42.00	44.17	29 39.86	+ 0.13	−16.51	9 30 35.62	. . .	
	12		D.	5.20	7.69	10.00	12.10	14.59						
	13		E.	35.70	38.79	41.20	44.06	47.00						
	14		C.	35.89	38.15	40.29	42.37	44.79						
	15	ε Leonis	D.	6.29	8.88	11.00	13.40	16.00	38 11.63	−31.35 + 0.16	−16.51	9 37 23.93	− 4.21	
	16		E.	37.60	40.78	43.59	46.12	49.39						
	17		A.	55.09	57.70	0.40	4.00	6.67						
	18		B.	27.50	29.69	32.33	35.00	37.00						
	19	γ Leonis	C.	57.88	0.20	2.20	4.39	6.59	12 2.26	+ 0.15	−16.51	10 11 45.90	− 4.21	
	20		D.	27.30	30.14	32.20	34.58	36.88						
	21		E.	57.90	1.35	3.74	6.39	9.54						
	22		A.	6.10	8.63	11.46	14.49	17.00						
	23		B.	36.91	38.86	41.30	43.80	45.79						
20	24	ε Hydræ	C.	5.50	7.61	9.51	11.60	13.60	39 9.56	+ 0.09	−16.22	8 38 53.43	− 3.72	
	25		D.	33.36	35.81	37.38	39.88	42.39						
	26		E.	2.00	5.20	7.69	10.17	12.91						
	27		A.	40.58	44.11	48.49	52.83	56.70						
	28		B.	26.53	29.50	33.17	36.64	39.89						
	29	ι Ursæ Majoris	C.	9.72	12.69	15.58	18.43	21.84	49 15.66	+ 0.32	−16.20	8 48 59.78	− 4.87	
	30		D.	51.62	55.13	58.20	1.30	4.90						
	31		E.	34.50	38.91	42.77	46.60	50.89						
	32		B.	0.21	2.14	4.80	7.00	8.93						
	33	α Hydræ	C.	28.73	30.78	32.82	34.93	37.00	20 47.38	−14.53 + 0.02	−16.16	9 20 16.71	− 3.71	
	34		D.	56.57	59.13	1.09	3.13	5.66						
	35		E.	25.28	28.47	31.00	33.52	36.40						
	36		A.	30.90	33.59	36.40	40.00	42.59						
	37		B.	4.32	6.29	9.00	11.81	14.00						
	38	ε Leonis	C.	35.55	37.74	40.11	42.31	44.27	37 39.92	+ 0.16	−16.13	9 37 23.95	− 4.17	
	39		D.	5.77	8.48	10.79	13.00	15.56						
	40		E.	37.13	40.33	43.08	45.87	49.00						
	41		B.	0.50	2.48	5.00	7.51	9.68						
	42	α Pegasi	C.	29.75	31.80	34.00	36.10	38.00	57 33.93	+ 0.02 + 0.12	−14.91	22 57 19.16	− 1.59	B.
	43		D.	58.10	0.70	2.80	5.08	7.51						
21	44	Polaris	C.	13.00	28.00	47.00	5.00	22.00	4 47.00	+ 0.89 + 8.56	−14.74	1 4 41.71	+19.26	
	45		A.	19.40	22.00	25.20	28.19	31.00						
	46		B.	52.20	54.49	57.20	59.60	2.00						
	47	δ Geminorum	C.	23.10	25.19	27.35	29.51	31.70	11 27.36	+ 0.15	−14.22	7 11 13.29	− 3.68	
	48		D.	53.00	55.45	57.70	0.00	2.50						
	49		E.	23.46	26.70	29.50	32.20	35.30						
	50		A.	5.00	8.00	11.21	14.85	17.79						
	51		B.	41.00	43.30	46.15	49.13	51.55						
	52	α^2 Geminorum	C.	14.59	17.11	19.36	21.80	24.12	25 19.35	+ 0.20	−14.20	7 25 5.35	− 4.00	
	53		D.	47.20	50.00	52.50	55.00	57.80						
	54		E.	20.70	24.27	27.32	30.22	33.72						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^h.\ 0^m.$ m. s.	s.	s.	s.	s.
Mar. 14	− 0 16.53	lg 0.008	+ 0.073	+ 0.236	0.00
20	− 0 16.36	lg 0.078	+ 0.073	+ 0.236	0.00
21	− 0 14.23	lg 0.079	+ 0.073	+ 0.236	0.00

11. Adopted Correction for semidiameter = + $71^s.14$.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	41.00	43.60	46.30	49.20	51.60						
	2		B.	11.80	13.80	16.12	18.60	20.70						
Mar. 21	3	α Canis Minoris	C.	40.30	42.20	44.40	46.49	48.41	31 44.28	+ 0.08	−14.19	7 31 30.17	− 3.36	B.
	4		D.	8.00	10.42	12.39	14.50	17.00						
	5		E.	36.60	39.60	42.00	44.50	47.39						
	6		A.	14.20	17.00	20.14	23.60	26.22						
	7		B.	48.80	51.00	53.82	56.41	58.69						
	8	β Geminorum	C.	20.80	23.30	25.65	27.62	30.20	36 25.59	+ 0.18	−14.18	7 36 11.55	− 3.88	
	9		D.	52.40	55.00	57.55	59.80	2.70						
	10		E.	24.70	28.00	31.00	34.00	37.29						
	11		A.	11.36	14.09	17.31	20.72	23.54						
	12		B.	45.93	48.22	51.00	53.80	56.00						
24	13	β Geminorum	C.	18.31	20.59	22.87	25.13	27.38	36 22.85	+ 0.18	−11.55	7 36 11.48	− 3.82	K.
	14		D.	49.68	52.42	54.64	57.10	59.89						
	15		E.	22.12	25.50	28.20	31.04	34.32						
	16		A.	15.18	17.86	21.00	24.13	27.00						
	17		B.	48.50	50.53	53.39	56.00	58.06						
	18	15 Argus	C.	19.41	21.71	24.00	26.04	28.30	1 23.94	− 0.05	−11.53	8 1 12.36	− 3.04	
	19		D.	49.74	52.31	54.70	56.84	59.52						
	20		E.	20.90	24.11	26.17	29.68	32.66						
	21		B.	55.00	10.00	46.00	19.00	33.00						
25	22	Polaris	C.	14.00	31.00	48.00	7.00	24.00	4 47.73	+ 0.71 + 8.56	−10.89	1 4 46.11	+19.87	B.
	23		D.	57.00	31.00	49.00	11.00	41.00						
	24		A.	48.39	51.10	54.08	57.36	0.10						
	25		B.	21.34	23.37	26.10	29.00	31.00						
	26	α Arietis	C.	52.20	54.45	56.65	58.67	1.10	58 56.58	+ 0.16	−10.85	1 58 45.89	− 2.02	
	27		D.	22.00	24.68	27.00	29.30	31.70						
	28		E.	53.00	56.30	59.00	1.80	4.71						
	29		A.	39.60	42.39	45.30	48.30	51.00						
	30		B.	11.49	13.59	16.30	18.79	21.00						
	31	α Canis Majoris	C.	41.12	43.49	45.42	47.50	49.80	38 45.43	− 0.01	−10.61	6 38 34.81	− 2.57	
	32		D.	10.00	12.55	14.70	17.00	19.30						
	33		E.	39.60	42.79	45.43	48.13	51.25						
	34		A.	45.00	47.79	51.00	54.39	57.31						
	35		B.	19.70	22.00	24.70	27.79	29.80						
	36	ε Canis Majoris	C.	52.21	54.52	57.00	59.10	1.49	52 56.78	− 0.07	−10.62	6 52 46.09	− 2.43	
	37		D.	23.82	26.45	28.82	31.16	33.84						
	38		E.	56.20	59.60	2.18	5.10	8.42						
	39		A.	50.39	53.00	55.80	59.20	2.17						
	40		B.	24.30	26.46	29.17	31.98	34.18						
	41	Dec. − 26° 47′	C.	56.00	58.48	0.70	3.00	5.13	9 0.59	− 0.06	−10.58	7 8 49.95	− 2.62	
	42		D.	27.00	29.50	31.90	34.39	37.00						
	43		E.	59.00	2.31	5.00	7.79	11.00						
	44		B.	3.05	5.29	8.00	10.58	12.65						
	45	Canis Majoris (2417)	C.	34.51	36.77	38.77	41.00	43.20	12 38.80	+ 0.02 − 0.05	−10.58	7 12 28.19	− 2.69	
	46		D.	4.69	7.39	9.60	11.90	14.60						
	47		A.	1.60	4.40	7.50	11.00	14.00						
	48		B.	37.25	39.79	42.60	45.50	47.79						
	49	α^2 Geminorum	C.	10.72	13.30	15.55	18.05	20.60	25 15.65	+ 0.20	−10.56	7 25 5.29	− 3.92	
	50		D.	43.43	46.30	58.90	51.25	54.13						
	51		E.	16.69	20.64	23.45	26.68	30.20						
	52		A.	37.41	39.90	42.42	45.39	48.18						
	53		B.	7.82	10.00	12.22	14.83	16.82						
	54	α Canis Minoris	C.	36.40	38.70	40.60	42.58	44.85	31 40.59	+ 0.08	−10.56	7 31 30.11	− 3.29	
	55		D.	4.30	6.70	8.80	11.00	13.45						
	56		E.	33.00	36.00	38.41	41.00	44.00						

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $7^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Mar. 21	− 0 14.23	lg 0.079	+ 0.073	+ 0.236	0.00
24	− 0 11.57	lg 0.039	+ 0.073	+ 0.236	0.00
25	− 0 10.59	lg 0.057	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	10.10	12.90	16.31	19.70	22.78						
	2		B.	45.00	47.30	50.20	52.51	55.12						
Mar. 25	3	β Geminorum	C.	17.00	19.30	21.85	24.00	26.51	36 21.79	+ 0.18	−10.55	7 36 11.42	− 3.80	B.
	4		D.	48.61	51.42	53.71	55.80	58.82						
	5		E.	20.80	24.42	27.00	30.10	33.55						
	6		A.	49.29	52.00	55.20	58.51	1.39						
	7		B.	23.81	26.00	28.81	31.69	33.81						
26	8	β Tauri	C.	56.20	58.55	0.75	3.00	5.31	17 0.74	+ 0.18	− 8.94	5 16 51.98	− 3.15	K.
	9		D.	27.60	30.39	32.60	35.00	37.71						
	10		E.	0.00	3.40	6.21	9.08	12.30						
	11		A.	29.29	31.60	34.40	37.44	40.00						
	12		B.	59.50	1.65	4.00	6.52	8.49						
	13	δ Orionis	C.	28.18	30.00	32.00	34.11	36.20	24 32.10	+ 0.06	− 8.93	5 24 23.23	− 2.54	
	14		D.	55.73	58.11	0.30	2.19	4.60						
	15		E.	24.19	27.20	29.69	32.11	35.00						
	16		A.	44.60	47.10	49.89	53.00	55.55						
	17		B.	15.19	17.12	19.59	22.00	24.00						
	18	ε Orionis	C.	43.60	45.59	47.59	49.60	51.61	28 47.62	+ 0.05	− 8.92	5 28 38.75	− 2.54	
	19		D.	11.29	13.59	15.60	17.72	20.21						
	20		E.	39.72	42.70	45.29	47.69	50.65						
	21		B.	42.00	44.00	46.50	49.00	51.00						
	22		C.	10.71	12.79	14.79	16.77	18.77		−14.51				
	23	α Orionis	D.	38.60	41.00	43.00	45.19	47.59	47 29.28	+ 0.09	− 8.90	5 47 5.96	− 2.83	
	24		E.	7.30	10.25	12.82	15.30	18.28						
	25		A.	57.00	59.70	2.80	6.00	8.66						
	26		B.	30.00	32.20	34.88	37.50	39.55						
	27	μ Geminorum	C.	0.80	3.00	5.11	7.32	9.50	14 5.17	+ 0.15	− 8.86	6 13 56.46	− 3.32	
	28		D.	30.70	33.34	35.60	37.84	40.38						
	29		E.	1.49	4.85	7.59	10.20	13.30						
	30		A.	38.00	40.48	43.45	46.60	49.20						
	31		B.	10.00	12.00	14.50	17.00	19.00						
	32	α Canis Majoris	C.	39.55	41.60	43.63	45.70	47.80	38 43.67	− 0.01	− 8.82	6 38 34.84	− 2.55	
	33		D.	8.29	10.90	13.00	15.28	17.54						
	34		E.	37.89	41.00	43.70	46.29	49.31						
	35		A.	10.84	13.50	16.55	19.79	22.49						
	36		B.	43.72	45.90	48.60	51.29	53.40						
28	37	μ Geminorum	C.	14.60	16.80	18.90	21.08	23.30	13 18.96	+ 0.15	+37.36	6 13 56.47	− 3.29	
	38		D.	44.52	47.29	49.38	51.60	54.20						
	39		E.	15.36	18.60	21.30	24.00	27.10						
	40		A.	51.81	54.31	57.30	0.40	3.09						
	41		B.	23.69	25.60	28.20	30.75	32.80						
	42	α Canis Majoris	C.	53.29	55.40	57.35	59.45	1.53	37 57.41	− 0.01	+37.33	6 38 34.73	− 2.51	
	43		D.	22.00	24.40	26.60	28.89	31.30						
	44		E.	51.79	54.89	57.41	0.00	3.04						
	45		B.	31.90	34.29	36.90	39.70	42.00						
	46		C.	4.41	6.59	9.00	11.24	13.60		−16.42				
	47	ε Canis Majoris	D.	35.78	38.52	41.00	43.36	46.00	52 25.36	− 0.07	+37.31	6 52 46.18	− 2.37	
	48		E.	8.29	11.80	14.66	17.40	20.72						
	49		A.	27.71	30.28	33.51	36.88	39.39						
	50		B.	0.70	3.19	5.45	8.00	10.19						
	51	δ Geminorum	C.	31.35	33.56	35.78	37.68	40.05	10 35.72	+ 0.15	+37.29	7 11 13.16	− 3.55	
	52		D.	1.27	3.61	6.09	8.28	10.56						
	53		E.	32.00	35.44	37.76	40.60	43.72						

CORRECTIONS, &c.

Date.	Error of Clock. At 7h. 0m.	Hourly rate.	m.	n.	c.
	m. s.	s.	s.	s.	s.
Mar. 25	− 0 10.59	lg 0.057	+ 0.073	+ 0.236	0.00
26	− 0 8.79	lg 0.089	+ 0.073	+ 0.236	0.00
28	+ 0 37.30	g 0.086	+ 0.073	+ 0.236	0.00

37. The Clock stopped on the 28th.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	49.20	51.62	54.51	57.28	59.60						
Mar. 28	2	α^2 Geminorum	C.	22.88	25.29	27.53	30.00	32.40	24 44.63	−17.01	+37.27	7 25 5.09	− 3.86	K.
	3		D.	55.49	58.40	0.70	3.35	6.21		+ 0.20				
	4		E.	29.14	32.72	35.64	38.68	41.90						
	5		A.	49.60	51.92	54.81	57.78	0.20						
	6		B.	20.05	22.08	24.57	27.00	29.00						
	7	α Canis Minoris	C.	48.69	50.70	52.61	54.60	56.79	30 52.70	+ 0.08	+37.26	7 31 30.04	− 3.24	
	8		D.	16.42	18.90	20.79	23.00	25.39						
	9		E.	45.00	48.12	50.60	53.00	56.00						
	10		A.	22.60	25.41	28.68	32.00	34.80						
	11		B.	57.19	59.35	2.30	5.00	7.29						
	12	β Geminorum	C.	29.40	32.00	34.00	36.30	38.63	35 34.10	+ 0.18	+37.25	7 36 11.53	− 3.75	
	13		D.	0.90	3.70	6.00	8.42	11.13						
	14		E.	33.20	36.60	39.52	42.42	45.70						
	15		B.	44.28	46.51	49.29	52.05	54.25						
April 9	16	ε Canis Majoris	C.	16.79	19.11	21.37	23.55	25.92	52 37.73	−16.42	+24.91	6 52 46.15	− 2.10	
	17		D.	48.00	51.00	53.27	55.68	58.49		− 0.07				
	18		E.	20.80	24.19	27.00	29.90	33.11						
	19		B.	12.80	14.90	17.60	20.25	22.34						
	20	δ Geminorum	C.	43.53	45.69	47.70	50.00	52.25	11 3.40	−15.55	+24.93	7 11 12.93	− 3.34	
	21		D.	13.30	16.00	18.10	20.41	23.00		+ 0.15				
	22		E.	44.00	47.30	50.00	52.79	55.90						
	23		C.	35.00	37.29	39.59	42.00	44.30						
	24	α^2 Geminorum	D.	7.46	10.30	12.80	15.20	10.18	25 13.35	−33.73	+24.95	7 25 4.77	− 3.62	
	25		E.	41.05	44.79	47.69	50.61	54.05		+ 0.20				
	26		A.	9.52	12.32	15.40	18.60	21.43						
	27		B.	43.00	45.08	47.78	50.41	52.58						
	28	Moon 1st L.	D.	44.21	46.79	49.12	51.40	54.00	1 18.41	+ 0.14	+25.02	8 2 55.15	- - -	
	29		E.	15.30	18.63	21.42	24.00	27.14						
	30		A.	41.30	43.80	46.79	50.00	52.60						
	31		B.	13.52	15.53	18.10	20.68	22.90						
	32	δ Caneri	C.	43.49	45.58	47.61	49.77	52.00	35 47.68	+ 0.14	+25.06	8 36 12.88	− 3.64	
	33		D.	12.53	15.08	17.20	19.57	22.00						
	34		E.	43.72	45.86	48.43	50.91	54.00						
	35		B.	6.49	8.69	11.41	14.00	16.11						
	36		C.	37.71	39.89	42.08	44.21	46.50		−15.74				
11	37	15 Argus	D.	7.67	10.52	12.69	15.00	17.72	0 57.78	− 0.05	+30.04	8 1 12.03	− 2.69	
	38		E.	39.00	42.28	45.00	47.70	50.90						
	39		A.	38.21	40.69	43.56	46.80	49.40						
	40		B.	10.28	12.40	15.00	17.66	19.55						
	41	Moon 1st L.	C.	40.39	42.48	44.73	46.85	48.90	3 44.66	+ 0.12	+30.24	10 5 25.48	- - -	
	42		D.	9.58	12.12	14.43	16.59	19.05						
	43		E.	39.91	43.21	45.60	48.11	51.11						
	44		A.	43.12	48.22	54.66	1.19	6.48						
	45		B.	49.39	53.60	59.00	4.22	8.46						
	46	α Ursæ Majoris	C.	50.89	55.38	59.70	4.20	8.46	53 59.72	+ 0.50	+30.33	10 54 30.55	− 5.20	
	47		D.	50.90	56.00	0.60	5.00	10.30						
	48		E.	52.72	59.40	4.60	10.05	16.49						
	49		A.	33.40	35.93	39.08	42.00	44.79						
	50	δ Leonis	B.	6.15	8.19	10.79	13.39	15.42	5 40.89	+ 0.15	+30.35	11 6 11.39	− 4.06	
	51		D.	6.25	8.86	11.00	13.40	15.78						
	52		E.	36.82	40.11	42.72	45.40	48.39						

27. Correction for Semidiameter = + 71s. 58.
41. Correction for Semidiameter = + 70s. 46.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 9h. 0m.				
	m. s.	s.	s.	s.	s.
Mar. 28	+ 0 37.47	g 0.086	+ 0.073	+ 0.236	0.00
Apr. 9	+ 0 25.10	lg 0.083	+ 0.073	+ 0.236	0.00
11	+ 0 30.14	lg 0.098	+ 0.073	+ 0.236	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	19.50	22.00	24.90	28.00	30.69						
	2		B.	50.88	53.09	55.49	57.90	59.90						
Apr. 11	3	δ Hydræ et Crateris	C.	20.16	22.38	24.34	26.43	28.39	11 24.31	0.00	+30.36	11 11 54.67	— 4.02	K.
	4		D.	48.62	51.11	53.20	55.33	58.00						
	5		E.	17.79	21.00	23.52	26.00	29.14						
	6		A.	7.29	9.79	12.69	15.60	18.12						
	7		B.	38.00	40.09	42.42	44.89	46.90						
18	8	ε Hydræ	C.	6.61	8.62	10.59	12.67	14.69	38 10.67	+ 0.09	+42.26	8 38 53.02	— 3.29	
	9		D.	34.49	36.82	39.00	41.00	43.49						
	10		E.	3.10	6.10	8.62	11.13	14.09						
	11		A.	30.54	33.00	36.00	38.93	41.39						
	12		B.	1.24	3.31	5.70	8.23	10.29						
	13	α Hydræ	C.	30.00	32.05	34.00	36.00	38.00	19 34.04	+ 0.02	+42.30	9 20 16.36	— 3.34	
	14		D.	57.89	0.30	2.39	4.32	6.92						
	15		E.	26.61	29.49	32.12	34.69	37.52						
	16		A.	31.00	34.52	37.58	41.00	43.52						
	17		B.	5.32	7.39	10.19	12.89	15.00						
	18	ε Leonis	C.	36.60	38.72	41.00	43.30	45.30	36 40.94	+ 0.16	+42.32	9 37 23.42	— 3.80	
	19		D.	6.92	9.50	11.89	14.09	16.61						
	20		E.	38.20	41.50	44.30	47.00	50.12						
	21		A.	36.18	39.78	44.08	48.60	52.40						
	22		B.	22.20	25.20	28.91	32.58	35.50						
22	23	ι Ursæ Majoris	C.	5.28	8.29	11.20	14.30	17.30	48 11.29	+ 0.32	+47.10	8 48 58.71	— 4.14	
	24		D.	47.00	50.68	53.67	56.92	0.50						
	25		E.	30.08	34.56	38.37	42.18	46.50						
	26		A.	25.68	28.04	31.00	33.90	36.37						
	27		B.	56.30	58.39	0.88	3.20	5.18						
	28	α Hydræ	C.	25.00	27.07	29.07	31.15	33.20	19 29.11	+ 0.02	+47.15	9 20 16.28	— 3.28	
	29		D.	53.00	55.39	57.47	59.37	1.94						
	30		E.	21.69	24.78	27.29	29.70	32.60						
	31		A.	26.93	29.55	32.69	35.90	38.64						
	32		B.	0.34	2.54	5.30	7.90	10.09						
	33	ε Leonis	C.	31.60	33.79	36.04	38.17	40.28	36 35.99	+ 0.16	+47.18	9 37 23.33	— 3.74	
	34		D.	1.98	4.69	6.80	9.10	11.70						
	35		E.	33.05	36.50	39.20	42.00	45.07						
	36		A.	23.22	28.59	34.85	41.20	46.59						
	37		B.	29.29	33.65	38.77	44.19	48.35						
23	38	α Ursæ Majoris	C.	31.05	35.30	39.56	44.10	48.39	53 39.74	+ 0.50	+49.87	10 54 30.11	— 4.89	
	39		D.	30.90	36.16	40.62	45.26	50.27						
	40		E.	32.59	39.28	44.70	50.04	56.47						
	41		A.	13.80	16.29	19.22	22.60	25.10						
	42	δ Leonis	B.	46.49	48.57	51.27	53.88	55.90	5 21.27	+ 0.15	+49.89	11 6 11.31	— 3.95	
	43		D.	46.64	49.05	51.38	53.62	56.27						
	44		E.	17.17	20.47	23.10	25.70	28.86						
	45		A.	0.00	2.37	5.37	8.48	11.04						
	46		B.	31.25	33.29	35.80	38.37	40.40						
	47	δ Hydræ et Crateris	C.	0.60	2.60	4.59	6.69	8.80	11 4.71	0.00	+49.89	11 11 54.60	— 3.92	
	48		D.	29.00	31.58	33.60	35.70	38.20						
	49		E.	58.23	1.48	4.04	6.59	9.54						
	50		C.	24.90	27.30	29.59	32.00	34.24						
	51	Hydræ (3969)	D.	57.28	0.11	2.45	4.92	7.71	34 3.07	—33.53 — 0.09	+49.93	11 34 19.38	— 4.28	
	52		E.	30.56	34.32	37.15	40.00	43.50						
	53		A.	59.35	2.10	5.05	8.33	10.91						
	54		B.	32.11	34.31	36.88	39.53	41.75						
May 6	55	δ Leonis	C.	2.65	5.00	7.03	9.20	11.48	5 7.06	+ 0.15	+63.87	11 6 11.08	— 3.81	
	56		D.	32.55	34.92	37.23	39.45	42.13						
	57		E.	30.00	6.15	8.75	11.65	14.85						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $9^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Apr. 11	+ 0 30.14	lg 0.098	+ 0.073	+ 0.236	0.00
18	+ 0 42.28	lg 0.059	+ 0.073	+ 0.236	0.00
22	+ 0 47.12	lg 0.091	+ 0.073	+ 0.236	0.00
23	+ 0 49.67	lg 0.100	+ 0.073	+ 0.236	0.00

April 25th, Shortened the Pendulum of Standard Clock 1 division.
May 5th, Stopped the old Sidereal Clock at 21 hours.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	45.45	48.27	51.13	54.15	56.90						
	2		B.	16.85	19.10	21.65	24.05	26.00						
May 6	3	δ Hydræ & Crateris	C.	46.25	48.60	50.65	52.65	54.85	10 50.53	0.00	+63.88	11 11 54.41	− 3.79	B.
	4		D.	14.75	17.23	19.43	21.75	24.22						
	5		E.	44.20	47.28	50.00	52.50	55.42						
	6		A.	18.60	21.25	24.12	27.23	29.75						
	7		B.	50.15	52.23	54.95	57.35	59.50						
	8	β Leonis	C.	19.63	21.95	24.00	26.13	28.35	40 23.95	+ 0.12	+63.90	11 41 27.97	− 3.84	
	9		D.	48.55	51.15	53.13	55.30	57.83						
	10		E.	17.85	21.00	23.65	26.00	29.13						
	11		B.	58.55	2.13	6.10	10.55	13.75						
	12	γ Ursæ Majoris	C.	47.75	51.43	54.62	58.03	1.75	44 54.67	+ 0.03 + 0.38	+63.90	11 45 58.98	− 4.22	
	13		D.	35.45	39.60	43.03	46.50	50.80						
	14		B.	59.00	31.00	53.00	13.00	49.00						
	15	Polaris, S. P.	C.	21.00	37.00	57.00	10.00	35.00	3 55.87	+ 0.71 − 8.40	+63.95	13 4 52.13	+13.29	
	16		D.	7.00	24.00	58.00	34.00	50.00						
	17		A.	32.90	35.65	38.85	42.15	44.85						
	18		B.	6.25	8.43	10.90	13.58	15.90						
	19	α Arietis	C.	37.15	39.25	41.45	43.45	45.82	57 41.39	+ 0.16	+64.51	1 58 46.06	− 2.21	
	20		D.	7.05	9.55	11.83	14.15	16.75						
	21		E.	37.75	41.12	43.85	46.55	49.70						
7	22	α Leonis	C.	17.20	19.20	21.32	23.33	25.35	59 21.28	+ 0.02 + 0.11	+64.86	10 0 26.27	− 3.45	*H.
	23		B.	14.00	18.35	23.70	28.75	32.90						
	24	α Ursæ Majoris	C.	16.00	20.00	24.33	28.58	33.15	53 24.42	+ 0.04 + 0.50	+64.90	10 54 29.86	− 4.45	
	25		D.	15.75	20.73	25.35	29.75	35.03						
	26		A.	58.83	1.40	4.40	7.60	10.33						
	27		B.	31.53	33.65	36.18	38.73	41.00						
	28	δ Leonis	C.	2.00	4.10	6.18	8.32	10.68	5 6.29	+ 0.15	+64.91	11 6 11.35	− 3.80	
	29		D.	31.55	34.15	36.45	38.75	41.35						
	30		E.	2.20	5.45	8.06	10.43	13.85						
	31		C.	41.69	43.80	45.82	47.89	50.05						
26	32	β Leonis	D.	10.35	12.92	14.96	17.15	19.60	40 15.46	−29.60 − 0.13	+102.15	11 41 27.88	− 3.64	
	33		E.	39.90	43.03	45.50	48.11	51.13						
	34		B.	20.12	23.42	27.72	31.90	35.19						
	35		C.	9.19	12.60	15.96	19.42	23.00						
	36	γ Ursæ Majoris	D.	56.60	0.87	4.30	7.95	12.10	44 40.80	−24.80 + 0.57	+102.16	11 45 58.73	− 3.76	
	37		E.	45.70	50.97	55.12	59.45	4.40						
	38		A.	45.46	48.10	51.10	54.40	56.95						
	39		B.	18.35	20.43	23.17	25.87	27.85						
	40	β Corvi	C.	49.12	51.35	53.53	55.69	57.90	24 53.52	− 0.57	+102.17	12 26 35.12	− 4.21	K.
	41		D.	19.10	21.60	23.85	26.19	28.80						
	42		E.	49.96	53.15	55.90	58.52	1.67						
	43		A.	46.77	49.05	52.05	55.12	57.58						
	44	Jupiter, 1st L.	C.	45.95	47.93	49.82	51.80	53.90	49 49.84	− 0.01 − 0.35	+102.17	12 51 33.04	- -	
	45		E.	42.11	45.10	47.60	50.05	52.83						
	46	Jupiter, 2d L.	B.	20.10	22.05	24.57	26.95	28.87	49 52.59	+ 0.02 − 0.35	+102.17	12 51 33.04	- - -	
	47		D.	16.05	18.65	20.70	22.73	25.22						
	48		A.	36.42	38.80	41.64	44.75	47.30						
	49		B.	7.30	9.36	11.80	14.32	16.30						
	50	α Virginis	C.	36.21	38.30	40.25	42.32	44.36	15 40.31	− 0.42	+102.18	13 17 22.07	− 4.36	
	51		D.	4.36	6.80	8.76	10.97	13.35						
	52		E.	33.17	36.32	38.88	41.40	44.27						
	53	η Bootis	D.	19.39	21.95	24.12	26.38	28.80	46 39.75	−45.33 − 0.08	+102.19	13 47 36.53	− 4.06	
	54		E.	49.60	52.83	55.32	58.00	1.12						

44, 46. Correction for Semidiameter, = 1s.39.
* H. in the column of Observer indicates Professor Hubbard.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 12h. 0m. m. s.	s.	s.	s.	s.
May 6	+ 1 3.92	lg 0.043	+ 0.073	+ 0.236	0.00
7	+ 1 4.95	lg 0.044	+ 0.073	+ 0.236	0.00
26	+ 1 42.16	lg 0.019	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	36.57	38.70	41.35	43.79	45.95						
	2		C.	6.80	9.03	11.05	13.18	15.41		−15.31				
May 26	3	α Bootis	D.	36.22	38.56	40.92	43.15	45.73	7 26.39	− 0.07	+102.20	14 8 53.21	− 3.98	K.
	4		E.	6.35	9.80	12.31	14.86	18.10						
	5		A.	36.00	38.47	41.39	44.47	46.84						
	6		B.	7.00	9.00	11.53	14.00	15.78						
31	7	α Virginis	C.	35.70	37.88	39.95	41.79	44.06	15 39.95	− 0.42	+102.51	13 17 22.04	− 4.34	
	8		D.	4.03	6.54	8.50	10.72	12.91						
	9		E.	32.88	35.82	38.55	41.11	43.93						
	10		B.	36.27	38.32	40.92	43.50	45.75						
	11		C.	6.46	8.62	10.77	12.76	15.05		−15.31				
	12	α Bootis	D.	35.83	38.43	40.59	42.89	45.40	7 26.08	− 0.07	+102.50	14 8 53.20	− 3.97	
	13		E.	6.03	9.42	12.14	14.73	17.71						
	14		A.	20.00	29.80	41.77	54.05	7.09						
	15		B.	18.60	30.40	41.85	54.50	8.44						
June 4	16	Polaris, S. P.	C.	21.12	32.40	41.75	56.20	10.09	5 44.42	−23.90	−16.54	13 5 3.98	− 4.29	
	17		D.	22.10	32.82	45.78	59.21	10.63						
	18		E.	22.20	35.97	45.78	57.56	10.92						
	19		A.	35.11	37.56	40.45	43.46	45.98						
	20		B.	6.02	8.03	10.47	13.03	15.12						
	21	α Virginis	C.	35.04	36.88	38.82	41.09	43.18	17 39.02	− 0.42	−16.54	13 17 22.06	− 4.31	
	22		D.	2.95	5.48	7.46	9.62	12.10						
	23		E.	32.08	35.00	37.61	40.07	42.98						
	24		B.	6.58	9.74	13.52	17.50	20.32						
	25		C.	50.92	54.08	57.00	0.31	3.46		−22.42				
	26	η Ursæ Majoris	D.	33.90	37.62	40.88	44.18	47.84	42 19.59	+ 0.45	−16.54	13 41 41.08	− 3.64	
	27		E.	18.13	23.02	26.89	30.69	35.34						
	28		A.	46.68	49.21	52.10	55.24	57.91						
	29		B.	18.89	20.84	23.50	26.08	28.05						
	30	η Bootis	C.	48.88	51.08	53.11	55.25	57.42	47 53.14	− 0.08	−16.54	13 47 36.52	− 4.02	
	31		D.	18.04	20.74	22.92	25.09	27.53						
	32		E.	48.24	51.41	54.00	56.70	59.70						
	33		A.	47.10	49.79	52.80	56.28	58.93						
	34		B.	20.55	22.69	25.49	28.00	30.26						
	35	Libræ (4854)	C.	51.80	53.94	56.10	58.24	0.60	34 56.14	− 0.59	−16.54	14 34 39.01	− 5.14	
	36		D.	21.95	24.60	26.90	29.21	31.95						
	37		E.	53.28	56.42	59.33	2.09	5.16						
	38		B.	10.00	12.14	15.07	17.83	20.04						
	39		C.	42.12	44.49	46.70	48.89	51.30		−16.25				
	40	ε Bootis	D.	13.30	15.96	18.40	20.71	23.45	39 2.94	+ 0.03	−16.54	14 38 30.18	− 4.01	
	41		E.	45.50	48.85	51.69	54.60	57.71						
	42		A.	51.94	54.40	57.33	0.40	2.97						
	43		B.	23.41	25.48	28.10	30.60	32.68						
	44	α^2 Libræ	C.	52.90	55.11	57.14	59.18	1.40	42 57.14	− 0.48	−16.54	14 42 40.12	− 4.88	
	45		D.	21.51	24.15	26.20	28.54	30.91						
	46		E.	51.20	54.31	56.81	59.31	2.53						
	47		A.	45.61	48.16	51.05	54.13	56.71						
	48		B.	16.83	18.88	21.38	23.91	26.00						
7	49	Moon, 1st L.	C.	45.99	48.10	50.17	52.19	54.20	17 50.14	− 0.27	−15.46	12 18 41.32	- - -	
	50		D.	14.21	16.80	18.90	21.05	23.54						
	51		E.	43.58	46.60	49.17	51.71	54.60						
	52		A.	42.80	45.39	48.47	51.79	54.51						
	53		B.	15.80	17.92	20.45	23.20	25.39						
	54	β Corvi	C.	46.58	48.75	50.97	53.07	55.30	26 50.92	− 0.57	−15.45	12 26 34.90	− 4.10	
	55		D.	16.43	19.13	21.29	23.55	26.14						
	56		E.	47.38	50.55	53.22	55.89	59.04						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $14^{h.}$ $0^{m.}$				
	m. s.	s.	s.	s.	s.
May 26	+ 1 42.20	lg 0.019	− 0.287	+ 0.630	0.00
31	+ 1 42.50	g 0.010	− 0.287	+ 0.630	0.00
June 4	− 0 16.54	g 0.005	− 0.287	+ 0.630	0.00
7	− 0 15.39	lg 0.039	− 0.287	+ 0.630	0.00

16. Polaris observed with chronograph.
49. Correction for semidiameter = $+66^{s.}.91$.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	20.30	22.74	25.51	28.50	31.04						
	2		B.	50.64	52.70	55.10	57.51	59.48						
June 7	3	γ Virginis - - - -	C.	19.18	21.13	23.21	25.19	27.22	34 23.17	— 0.31	—15.45	12 34 7.41	— 3.86	K.
	4		D.	46.78	49.21	51.21	53.32	55.73						
	5		E.	15.23	18.19	20.75	23.23	26.08						
	6		A.	19.36	21.85	24.61	27.62	30.20						
	7		B.	49.89	51.89	54.31	56.80	58.80						
	8	δ Virginis - - - -	C.	18.46	20.46	22.50	24.48	26.59	48 22.44	— 0.26	—15.44	12 48 6.74	— 3.91	
	9		D.	46.07	48.50	50.41	52.61	54.98						
	10		E.	14.68	17.65	20.12	22.67	25.57						
	11		A.	17.85	31.40	41.22	53.14	8.30						
	12		B.	18.88	31.00	42.68	54.16	8.00						
	13	Polaris S. P. - - -	C.	20.05	31.67	45.03	55.70	9.50	5 44.33	—23.90	—15.43	13 5 5.00	— 6.26	
	14		D.	21.36	34.00	44.92	57.31	9.72						
	15		E.	23.22	33.29	45.50	58.15	12.15						
	16		A.	33.90	36.39	39.24	42.32	44.75						
	17		B.	4.87	6.88	9.47	11.80	13.77						
	18	α Virginis - - - -	C.	33.78	35.71	37.90	39.94	41.97	17 37.87	— 0.42	—15.42	13 17 22.03	— 4.29	
	19		D.	1.97	4.28	6.30	8.56	10.99						
	20		E.	30.89	33.94	36.40	38.92	41.84						
	21		A.	18.08	21.88	26.27	30.95	34.84						
	22		C.	49.98	53.13	56.12	59.28	2.39		—10.93				
	23	η Ursæ Majoris - - -	D.	32.89	36.60	39.77	43.10	46.73	42 7.04	+ 0.45	—15.40	13 41 41.16	— 3.59	
	24		E.	17.28	21.98	25.84	29.60	34.17						
	25		A.	45.38	48.10	51.09	54.10	56.86						
	26		B.	17.69	19.74	22.39	24.91	26.94						
	27	η Bootis - - - - -	C.	47.86	49.92	52.10	54.19	56.17	47 52.02	— 0.08	—15.40	13 47 36.54	— 4.00	
	28		D.	16.98	19.64	21.70	23.94	26.35						
	29		E.	47.16	50.30	52.88	55.52	58.69						
	30		B.	2.10	4.19	6.62	9.10	11.17						
	31		C.	31.07	33.19	35.19	37.10	39.19		—14.63				
9	32	α Virginis - - - -	D.	59.14	1.73	3.72	5.89	8.29	17 49.78	— 0.42	—12.79	13 17 21.94	— 4.28	
	33		E.	28.06	31.08	33.57	36.14	39.09						
	34		A.	17.42	19.83	22.71	25.55	28.10						
	35		C.	16.28	18.17	20.29	22.35	24.29		— 7.02				
	36	ζ Virginis - - - -	D.	43.93	46.24	48.36	50.49	52.72	27 27.29	— 0.30	—12.78	13 27 7.19	— 4.14	
	37		E.	12.34	15.35	17.86	20.32	23.20						
	38		A.	15.44	19.26	23.51	28.17	32.00						
	39		B.	2.77	5.77	9.62	13.34	16.47						
	40	η Ursæ Majoris - - -	C.	47.20	50.15	53.30	56.42	59.57	41 53.38	+ 0.45	—12.76	13 41 41.07	— 3.56	
	41		D.	29.94	35.77	37.08	40.28	43.95						
	42		E.	14.25	19.15	23.00	26.76	31.24						
	43		A.	42.69	45.20	48.21	51.42	54.00						
	44		B.	14.87	16.97	19.64	22.18	24.22						
	45	η Bootis - - - - -	C.	45.05	47.14	49.28	51.44	53.58	47 49.26	— 0.08	—12.75	13 47 36.43	— 3.99	
	46		D.	14.25	16.80	18.91	21.18	23.80						
	47		E.	44.36	47.41	50.21	52.88	55.91						
	48		A.	48.49	50.93	53.93	57.10	59.57						
	49		B.	20.00	22.00	24.65	26.98	29.15						
	50	Moon, 1st L. - - -	C.	49.39	51.51	53.59	55.58	57.64	5 53.57	— 0.38	—12.73	14 6 47.17	- -	
	51		D.	18.00	20.42	22.63	24.82	27.27						
	52		E.	47.45	50.58	53.14	55.66	58.78						
	53		B.	44.47	46.50	48.94	51.48	53.40						
	54		C.	13.61	15.63	17.80	19.75	21.82		—14.75				
	55	λ Virginis - - - -	D.	41.84	44.28	46.47	48.62	51.10	11 32.45	— 0.44	—12.73	14 11 4.53	— 4.64	
	56		E.	11.07	14.20	16.68	19.26	22.11						

50. Correction for Semidiameter = + 66s. 71.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 14h. 0m.				
	m. s.	s.	s.	s.	s.
June 7	— 0 15.39	lg 0.039	— 0.287	+ 0.630	0.00
9	— 0 12.67	lg 0.070	— 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	30.60	33.12	36.66	40.00	42.93						
	2		B.	5.55	7.77	10.38	13.11	15.42						
June 9	3	Dec. — 28° 49′	C.	37.88	40.14	42.30	44.74	46.98	19 42.43	— 0.65	—12.72	14 19 29.06	— 5.16	K.
	4		D.	9.39	12.19	14.40	16.88	19.63						
	5		E.	41.91	45.31	48.23	50.98	54.28						
	6		A.	31.71	34.51	37.60	41.18	43.92						
	7		B.	6.20	8.42	10.97	13.86	16.13						
	8	ε Bootis	C.	38.28	40.48	42.75	45.08	47.38	38 42.81	+ 0.03	—12.69	14 38 30.15	— 3.98	
	9		D.	9.56	12.23	14.57	16.88	19.48						
	10		E.	41.60	45.00	47.87	50.60	53.90						
	11		A.	47.97	50.49	53.43	56.42	59.08						
	12		B.	19.51	21.61	24.17	26.71	28.71						
	13	α^2 Libræ	C.	48.98	51.18	53.21	55.20	57.32	42 53.20	— 0.48	—12.69	14 42 40.03	— 4.87	
	14		D.	17.78	20.21	22.22	24.49	26.92						
	15		E.	47.24	50.35	52.41	55.54	58.48						
	16		A.	18.30	21.06	24.22	27.45	30.30						
	17		B.	52.68	54.87	57.53	0.44	2.60						
	18	Hydræ (4940)	C.	24.61	26.89	29.27	31.47	33.71	53 29.17	— 0.63	—12.68	14 53 15.86	— 5.35	
	19		D.	55.65	58.42	0.73	3.20	5.76						
	20		E.	27.80	31.32	33.97	36.89	40.10						
	21		A.	10.65	12.92	16.08	18.90	21.41						
	22		B.	41.41	43.52	45.85	48.30	50.36						
	23	β Libræ	C.	10.20	12.21	14.20	16.25	18.35	9 14.24	— 0.40	—12.66	15 9 1.18	— 4.81	
	24		D.	38.00	40.54	42.70	44.74	47.27						
	25		E.	6.90	9.95	12.49	14.97	17.93						
	26		A.	26.18	28.92	32.17	35.53	38.33						
	27		B.	0.64	2.73	5.55	8.31	10.43						
	28	α Coronæ Borealis	C.	32.37	34.80	36.97	39.21	41.52	28 36.98	+ 0.02	—12.64	15 28 24.36	— 4.10	
	29		D.	3.52	6.18	8.49	10.98	13.60						
	30		E.	35.70	38.85	41.61	44.31	47.65						
	31		A.	6.88	9.41	12.30	15.19	17.79						
	32		B.	37.60	39.52	42.05	44.49	46.40						
	33	α Serpentis	C.	6.31	8.33	10.33	12.30	14.38	37 10.27	— 0.23	—12.63	15 36 57.41	— 4.53	
	34		D.	33.99	36.56	38.59	40.61	43.00						
	35		E.	2.67	5.71	8.20	10.63	13.61						
	36	ζ Ursæ Minoris	C.	24.54	35.10	44.28	54.12	4.44	50 53.33	—68.79	—12.61	15 49 34.59	— 2.72	
	37		D.	39.92	52.30	2.07	12.41	24.08		+ 2.66				
	38		A.	44.06	46.43	49.24	52.40	54.85						
	39		B.	14.67	16.53	19.08	21.54	23.45						
	40	δ Ophiuchi	C.	43.10	45.05	47.10	49.10	51.14	6 47.08	— 0.34	—12.59	16 6 34.15	— 4.82	
	41		D.	10.57	13.11	15.20	17.24	19.63						
	42		E.	39.09	42.18	44.90	47.20	50.06						
	43		A.	21.76	24.49	27.54	30.93	33.66						
	44		B.	55.55	57.97	0.75	3.20	5.48						
	45	α Scorpii	C.	27.30	29.41	31.72	33.94	36.14	20 31.77	— 0.61	—12.58	16 20 18.58	— 5.64	
	46		D.	58.08	0.58	3.11	5.31	8.00						
	47		E.	29.82	33.12	35.96	38.65	41.83						
	48		A.	15.07	18.29	22.00	25.80	28.95						
14	49	12 Canis Venaticorum	B.	54.39	56.97	0.04	3.27	5.80	47 59.44	+36.80	+27.00	12 49 3.45	— 3.51	
	50		C.	31.08	33.63	36.16	38.86	41.30		+ 0.21				
	51		A.	51.29	22.19	50.99	19.08	47.94						
	52		B.	53.82	24.20	52.99	21.56	51.00						
	53	α Virginis	C.	56.44	26.66	55.12	23.88	53.71	16 55.15	— 0.42	+27.10	13 17 21.83	— 4.24	
	54		D.	59.65	29.00	57.18	25.90	56.20						
	55		E.	2.13	31.13	59.28	28.25	59.20						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 15h. 0m.				
	m. s.	s.	s.	s.	s.
June 9	— 0 12.67	lg 0.070	— 0.287	+ 0.630	0.00
14	+ 0 27.43	lg 0.194	— 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	22.74	25.80	29.56	33.24	36.21						
	2		C.	7.15	9.85	13.14	16.32	19.16		−22.42				
June 14	3	η Ursæ Majoris	D.	50.08	53.78	56.96	0.29	3.87	41 35.59	+ 0.45	+27.18	13 41 40.80	− 3.46	K.
	4		E.	34.35	38.85	42.78	46.60	51.19						
	5		C.	4.94	7.02	9.19	11.28	13.43		−30.21				
	6	η Bootis	D.	34.30	36.78	38.95	41.26	43.59	47 39.45	− 0.08	+27.20	13 47 36.36	− 3.94	
	7		E.	4.23	7.64	10.23	12.95	15.90						
	8		A.	51.70	54.31	57.55	0.95	3.83						
	9		B.	26.05	28.20	30.92	33.82	36.00						
	10	ε Bootis	C.	58.23	0.45	2.76	4.94	7.31	38 2.69	+ 0.03	+27.36	14 38 30.08	− 3.95	
	11		D.	29.29	32.04	34.36	36.80	39.28						
	12		E.	1.54	4.90	7.71	10.50	13.71						
	13		C.	9.14	11.09	13.13	15.20	17.57		−29.61				
	14	α^2 Libræ	D.	37.68	40.17	42.29	44.40	47.05	42 42.81	− 0.48	+27.37	14 42 40.09	− 4.86	
	15		E.	7.30	10.37	12.84	15.47	18.39						
	16		A.	30.50	32.77	35.98	38.93	41.37						
	17		B.	1.42	3.47	5.90	8.46	10.24						
	18	β Libræ	C.	30.19	32.32	34.24	36.29	38.15	8 34.26	− 0.40	+27.46	15 9 1.32	− 4.80	
	19		D.	58.31	0.61	2.70	4.91	7.32						
	20		E.	26.96	30.03	32.41	35.10	37.78						
	21		A.	46.16	48.82	51.94	55.34	58.19						
	22		B.	20.31	22.46	25.26	28.08	30.20						
	23	α Coronæ Borealis	C.	52.30	54.52	56.73	58.95	1.28	27 56.77	+ 0.02	+27.52	15 28 24.31	− 4.08	
	24		D.	23.13	26.00	28.29	30.64	33.18						
	25		E.	55.24	58.81	1.68	4.22	7.54						
	26		B.	45.15	47.30	49.85	52.47	54.89		+ 0.02				
	27	Irene	D.	43.27	45.82	47.70	49.94	52.30	40 18.87	− 0.47	+27.56	15 40 45.98	- - -	
	28		B.	38.62	40.80	43.39	45.80	47.90						
	29	Weisse 845	C.	7.96	10.10	12.30	14.24	16.48	43 12.30	+ 0.02 − 0.46	+27.57	15 43 39.43	− 5.11	
	30		D.	36.80	39.17	41.46	43.55	45.97						
	31		A.	7.20	9.93	12.65	15.88	18.68						
	32		B.	39.61	41.70	44.09	46.69	48.79						
17	33	β^1 Scorpii	C.	9.94	11.80	13.80	16.10	18.34	56 13.91	− 0.52	+35.22	15 56 48.61	− 5.33	
	34		D.	38.87	41.75	43.53	45.70	48.40						
	35		E.	9.00	12.47	15.00	17.24	20.46						
	36		C.	55.31	57.38	58.89	1.20	3.20						
	37	δ Ophiuchi	D.	23.07	25.50	27.29	29.57	32.17	6 27.89	−28.59 − 0.34	+35.24	16 6 34.20	− 4.85	
	38		E.	51.51	54.55	56.77	59.56	2.34						
	39		A.	8.83	11.48	14.57	17.68	20.19						
	40		B.	41.15	43.32	45.98	48.52	50.65						
18	41	α Bootis	C.	11.48	13.49	15.72	17.83	20.15	8 15.75	− 0.07	+37.44	14 8 53.12	− 3.86	
	42		D.	40.90	43.49	45.58	47.80	50.32						
	43		E.	11.12	14.41	16.91	19.66	22.53						
	44		A.	41.50	44.38	47.48	50.88	53.60						
	45		B.	15.85	18.08	20.81	23.61	25.87						
	46	ε Bootis	C.	47.98	50.27	52.50	54.86	57.07	37 52.54	+ 0.03	+37.48	14 38 30.05	− 3.92	
	47		D.	19.28	21.90	24.26	26.61	29.28						
	48		E.	51.20	54.84	57.59	0.30	3.57						
	49		A.	57 98	0.40	3.41	6.42	8.96						
	50		B.	29.51	31.57	33.98	36.60	38.56						
	51	α^2 Libræ	C.	58.99	1.08	3.11	5.19	7.40	42 3.13	− 0.48	+37.48	14 42 40.13	− 4.84	
	52		D.	27.58	30.11	32.20	34.38	36.89						
	53		E.	57.22	0.14	2.77	5.48	8.49						

June 14. Image W. 38.5 div.
June 17. Image W. 40.0 div.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
June 14	+ 0 27.43	lg 0.194	− 0.287	+ 0.630	0.00
17	+ 0 35.13	lg 0.101	− 0.287	+ 0.630	0.00
18	+ 0 37.51	lg 0.085	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	30.75	38.15	48.36	57.33	4.94						
	2		C.	19.13	27.46	34.67	42.05	50.28		−54.77				
June 18	3	β Ursæ Minoris	D.	4.68	13.90	21.92	29.80	38.59	51 29.59	+ 1.97	+37.50	14 51 14.29	− 2.51	K.
	4		E.	53.34	4.63	13.90	23.47	34.46						
	5		A.	20.46	22.91	25.81	28.74	31.26						
	6		B.	51.28	53.34	55.61	58.17	0.10						
	7	β Libræ	C.	20.00	22.00	24.06	25.98	28.16	8 24.06	− 0.40	+37.52	15 9 1.18	− 4.79	
	8		D.	47.90	50.39	52.46	54.55	56.95						
	9		E.	16.66	19.74	22.40	24.79	27.65						
	10		A.	35.93	38.69	42.06	45.34	48.10						
	11		B.	10.06	12.56	14.91	17.79	20.08						
	12	α Coronæ Borealis	C.	42.20	44.49	46.70	49.08	51.29	27 46.69	+ 0.02	+37.55	15 28 24.26	− 4.07	
	13		D.	13.23	15.80	18.23	20.46	23.35						
	14		E.	45.28	48.64	51.38	54.16	57.51						
	15		A.	36.08	38.57	41.59	44.53	47.20						
	16		B.	7.50	9.60	12.14	14.50	16.80		+ 7.24				
	17	Irene	C.	37.04	39.19	41.23	43.29	45.16	37 33.87	− 0.47	+37.56	15 38 18.20	- - -	
	18		E.	35.29	37.52	40.84	43.19	46.16						
	19		A.	57.25	59.74	2.58	5.68	8.19						
	20	Weisse, 845	B.	28.58	30.65	33.12	35.57	37.64	42 32.62	+29.45	+37.57	15 43 39.18	− 5.12	
	21		C.	57.98	59.93	1.98	4.16	6.24		− 0.46				
	22		C.	9.06	11.00	13.20	15.40	17.30						
	23	Dec. — 14° 12′	D.	37.64	40.06	42.00	44.80	46.71	43 42.64	−29.44	+37.57	15 43 50.31	− 5.12	
	24		E.	6.95	10.16	12.47	15.12	18.26		− 0.46				
	25		A.	4.85	7.39	10.45	13.62	16.08						
	26		B.	37.15	39.27	41.67	44.29	46.31						
	27	β^1 Scorpii	C.	7.30	9.40	11.45	13.50	15.78	56 11.48	− 0.52	+37.59	15 56 48.55	− 5.33	
	28		D.	36.38	39.20	41.21	43.41	46.06						
	29		E.	6.66	9.94	12.42	15.08	18.10						
	30		A.	17.80	20.42	23.77	27.10	29.83						
	31		B.	52.24	54.44	57.29	0.00	2.32						
	32	Scorpii (5380)	C.	24.54	26.74	29.05	31.30	33.57	2 29.03	− 0.64	+37.60	16 3 5.99	− 5.73	
	33		D.	55.78	58.49	0.89	3.29	5.95						
	34		E.	28.05	31.54	34.19	37.00	40.25						
	35		A.	53.90	56.21	59.07	2.10	4.51						
	36		B.	24.42	26.48	28.90	31.22	33.17						
	37	δ Ophiuchi	C.	52.89	54.94	56.86	58.90	0.90	5 56.85	− 0.34	+37.60	16 6 34.11	− 4.85	
	38		D.	20.46	22.80	24.88	27.00	29.45						
	39		E.	49.00	52.06	54.42	56.88	59.80						
	40		A.	9.31	14.66	20.91	27.12	32.53						
	41		B.	14.06	18.21	23.40	28.53	32.82						
	42	η Draconis	C.	14.16	18.46	22.90	26.97	31.37	21 22.84	+ 0.87	+37.63	16 22 1.34	− 3.37	
	43		D.	12.93	17.77	22.31	26.61	31.85						
	44		E.	13.24	19.67	24.95	30.06	36.30						
	45		A.	40.52	43.67	46.93	50.48	53.60						
	46		B.	17.35	19.70	22.65	25.68	28.00						
	47	ε Scorpii	C.	51.65	54.00	56.44	58.95	1.24	39 56.46	− 0.73	+37.65	16 40 33.38	− 6.11	
	48		D.	24.94	27.75	30.18	32.80	35.75						
	49		E.	59.25	2.80	5.93	8.92	12.42						
	50		A.	35.98	38.49	41.44	44 71	47.26						
	51		B.	7.69	9.91	12.48	14.98	17.10						
	52	Vesta	C.	37.70	39.90	41.90	43.91	46.00	59 41.84	− 0.50	+37.68	17 0 19.02	- - -	
	53		D.	6.62	9.10	11.35	13.44	15.92						
	54		E.	36.45	39.50	42.17	44.80	47.15						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
June 18	+ 0 37.51	lg 0.085	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	39.36	41.82	44.70	47.69	50.30						
	2		B.	10.23	12.28	14.68	17.28	19.24						
June 19	3	α Virginis	C.	39.17	41.12	43.10	45.25	47.39	16 43.26	− 0.42	+39.10	13 17 21.94	− 4.20	K.
	4		D.	7.33	9.76	11.80	14.00	16.37						
	5		E.	36.22	39.23	41.73	44.28	47.20						
	6		A.	23.29	26.98	31.43	36.03	39.96						
	7		B.	10.72	13.72	17.64	21.35	24.35						
	8	η Ursæ Majoris	C.	55.00	57.95	1.20	4.31	7.59	41 1.22	+ 0.45	+39.12	13 41 40.79	− 3.37	
	9		D.	37.95	41.76	44.92	48.23	51.92						
	10		E.	22.24	27.00	30.92	34.80	39.12						
	11		A.	50.78	53.32	56.27	59.50	2.04						
	12		B.	23.10	25.08	27.70	30.30	32.25						
	13	η Bootis	C.	53.12	55.27	57.35	59.49	1.63	46 57.34	− 0.08	+39.13	13 47 36.39	− 3.90	
	14		D.	22.20	24.80	27.09	29.07	31.90						
	15		E.	52.41	55.65	58.30	0.83	3.98						
	16		A.	55.85	58.50	1.50	5.00	7.85						
	17		B.	29.65	31.90	34.55	37.22	39.56						
	18	Hydræ (4711)	C.	1.35	3.55	5.67	7.85	10.16	4 5.73	− 0.61	+39.14	14 4 44.26	− 4.90	
	19		D.	31.93	34.61	36.85	39.21	41.80						
	20		E.	3.67	7.00	9.79	12.53	15.66						
	21		A.	7.00	9.47	12.60	15.85	18.58						
	22		B.	39.59	41.63	44.17	46.79	48.78						
	23	α Bootis	C.	9.76	11.89	13.91	16.12	18.23	8 13.99	− 0.07	+39.15	14 8 53.07	− 3.85	
	24		D.	39.14	41.62	43.90	46.05	48.62						
	25		E.	9.35	12.65	15.20	17.89	20.89						
	26		A.	39.86	42.56	45.71	49.05	51.90						
	27		B.	14.23	16.30	19.15	21.89	24.13						
	28	ε Bootis	C.	46.37	48.69	50.72	53.04	55.33	37 50.82	+ 0.03	+39.18	14 38 30.03	− 3.92	
	29		D.	17.52	20.15	22.49	24.95	27.59						
	30		E.	49.43	53.00	55.85	58.60	1.89						
	31		A.	56.25	58.76	1.55	4.60	7.37						
	32	α^2 Libræ	B.	27.71	29.80	32.21	34.91	36.89	42 1.40	− 0.48	+39.18	14 42 40.10	− 4.83	
	33		D.	25.79	28.39	30.56	32.76	35.10						
	34		E.	55.40	58.45	1.04	3.76	6.69						
	35		B.	29.23	37.03	46.20	56.10	3.25						
	36	β Ursæ Minoris	C.	17.78	25.79	33.03	40.51	48.73	51 27.87	−54.77	+39.19	14 51 14.26	− 2.45	
	37		D.	2.40	11.89	20.24	27.77	37.10		+ 1.97				
	38		E.	51.07	2.93	12.19	21.61	32.50						
	39		A.	5.94	8.56	11.53	14.05	17.41						
	40		B.	38.53	40.44	43.00	45.60	47.69						
20	41	α Bootis	C.	8.64	10.76	12.86	15.00	17.06	8 12.83	− 0.07	+40.29	14 8 53.05	− 3.84	
	42		D.	37.96	40.47	42.64	44.90	47.49						
	43		E.	8.10	11.50	14.05	16.70	19.79						
	44		A.	38.49	41.58	44.63	47.89	50.69						
	45		B.	12.86	15.26	18.00	20.76	23.05						
	46	ε Bootis	C.	45.05	47.39	49.60	51.97	54.26	37 49.69	+ 0.03	+40.31	14 38 30.03	− 3.91	
	47		D.	16.40	19.05	21.36	23.80	26.54						
	48		E.	48.52	51.98	54.76	57.56	0.89						
	49		A.	55.00	57.49	0.44	3.61	6.16						
	50		B.	26.50	28.58	31.20	33.71	35.83						
	51	α^2 Libræ	C.	56.08	58.15	0.19	2.31	4.38	42 0.24	− 0.48	+40.32	14 42 40.08	− 4.83	
	52		D.	24.78	27.27	29.30	31.54	33.98						
	53		E.	54.20	57.40	0.00	2.59	5.48						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
June 19	+ 0 39.20	lg 0.060	− 0.287	+ 0.630	0.00
20	+ 0 40.33	lg 0.047	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	32.20	41.40	52.50	3.68	13.30						
	2		B.	28.45	36.05	45.00	54.52	1.97						
June 20	3	β Ursæ Minoris	C.	16.52	24.10	31.71	39.30	47.17	50 31.78	+ 1.97	+40.32	14 51 14.07	— 2.40	K.
	4		D.	1.26	10.83	18.44	26.61	35.74						
	5		E.	49.98	1.40	10.76	20.19	31.40						
	6		B.	48.48	50.45	52.90	55.41	57.42						
	7	β Libræ	C.	17.16	19.29	21.25	23.26	25.42	8 21.29	+ 0.02 — 0.40	+40.34	15 9 1.25	— 4.79	
	8		D.	45.24	47.55	49.59	51.79	54.20						
	9		A.	33.29	35.89	39.12	42.42	45.32						
	10	α Coronæ Borealis	B.	7.46	9.69	12.34	15.06	17.46	27 27.76	+16.20	+40.35	15 28 24.33	— 4.06	
	11		C.	39.49	41.75	43.91	46.21	48.44		+ 0.02				
	12		D.	10.43	13.10	15.50	17.90	20.53						
	13		A.	13.89	16.33	19.26	22.20	24.78						
	14		B.	44.65	46.65	49.10	51.52	53.44						
	15	α Serpentis	C.	13.25	15.23	17.31	19.27	21.27	36 17.29	— 0.23	+40.36	15 36 57.42	— 4.52	
	16		D.	41.05	43.51	45.56	47.65	50.05						
	17		E.	9.74	12.76	15.31	17.77	20.68						
	18		A.	41.33	53.44	7.53	22.00	34.30						
	19		B.	11.00	21.00	32.90	44.95	54.57						
	20	ζ Ursæ Minoris	C.	30.90	40.77	50.44	0.10	10.52	48 50.58	+ 2.66	+40.37	15 49 33.61	— 2.15	
	21		D.	46.59	58.42	8.12	18.94	30.71						
	22		E.	6.38	21.20	33.26	45.34	59.78						
	23		A.	2.14	4.71	7.61	10.87	13.47						
	24		B.	34.40	36.44	39.10	41.70	43.72						
	25	β^1 Scorpii	C.	4.49	6.61	8.80	10.86	12.99	56 8.77	— 0.52	+40.37	15 56 48.62	— 5.34	
	26		D.	33.81	36.34	38.39	40.75	43.18						
	27		E.	3.98	7.20	9.75	12.53	15.43						
	28		B.	21.67	23.65	26.06	28.48	30.48						
	29	δ Ophiuchi	C.	50.10	52.11	54.11	56.10	58.08	6 8.53	—14.41	+40.38	16 6 34.16	— 4.86	
	30		D.	17.70	20.06	22.15	24.30	26.76		— 0.34				
	31		E.	46.31	49.29	51.81	54.21	57.20						
	32		B.	8.36	11.42	15.22	19.14	22.00						
	33	η Ursæ Majoris	C.	52.70	55.86	58.90	2.00	5.24	41 21.38	—22.42	+41.37	13 41 40.78	— 3.33	
21	34		D.	35.65	39.42	42.70	46.00	49.70		+ 0.45				
	35		E.	20.05	24.93	28.65	32.50	37.10						
	36		A.	48.45	51.00	54.10	57.23	59.98						
	37		B.	20.73	22.86	25.42	27.96	30.08						
	38	η Bootis	C.	50.85	52.90	55.10	57.20	59.30	46 55.06	— 0.08	+41.37	13 47 36.35	— 3.88	
	39		D.	20.10	22.61	24.68	26.93	29.48						
	40		E.	50.20	53.32	56.05	58.50	1.58						
	41		A.	4.80	7.40	10.43	13.61	16.30						
	42		B.	37.32	39.43	41.90	44.53	46.58						
	43	α Bootis	C.	7.35	9.60	11.73	13.80	15.92	8 11.72	— 0.07	+41.38	14 8 53.03	— 3.83	
	44		D.	36.89	39.40	41.57	43.71	46.21						
	45		E.	7.14	10.35	13.00	15.39	18.71						
	46		A.	53.90	56.45	59.33	2.51	5.04						
	47		B.	25.50	27.50	30.09	32.54	34.60						
	48	α^2 Libræ	C.	55.00	57.06	59.10	1.19	3.36	41 59.14	— 0.48	+41.41	14 42 40.07	— 4.82	
	49		D.	23.59	26.14	28.21	30.35	32.82						
	50		E.	53.19	56.26	58.91	1.45	4.43						
	51		A.	31.39	40.37	51.50	2.97	12.21						
	52		B.	27.30	34.50	44.12	53.36	0.82						
	53	β Ursæ Minoris	C.	15.51	23.07	30.82	38.30	46.42	50 30.82	+ 1.97	+41.41	14 51 14.20	— 2.34	
	54		D.	0.66	9.86	17.80	25.67	34.69						
	55		E.	48.92	0.58	10.03	19.38	30.34						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
June 20	+ 0 40.33	lg 0.047	— 0.287	+ 0.630	0.00
21	+ 0 41.42	lg 0.041	— 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	16.59	19.05	21.92	24.90	27.46						
	2		B.	47.26	49.28	51.85	54.25	56.30						
June 21	3	β Libræ	C.	16.15	18.22	20.10	22.20	24.28	8 20.19	− 0.40	+41.43	15 9 1.22	− 4.79	K.
	4		D.	44.10	46.39	48.60	50.70	53.08						
	5		E.	12.83	15.90	18.43	20.97	23.97						
	6		A.	32.09	34.75	38.10	41.38	44.32						
	7	α Coronæ Borealis	C.	38.41	40.53	42.89	45.13	47.44	27 50.76	− 7.89	+41.44	15 28 24.33	− 4.05	
	8		D.	9.40	12.15	14.45	16.75	19.50		+ 0.02				
	9		E.	41.40	44.75	47.75	50.35	53.65						
	10		A.	31.60	44.08	54.09	6.64	19.31						
	11		B.	31.20	45.05	55.59	7.42	20.22						
24	12	Polaris, S. P.	C.	32.00	45.26	56.52	9.05	20.45	4 56.89	−23.90	+43.29	13 5 16.28	−19.79	
	13		D.	34.64	45.11	57.30	11.30	22.51						
	14		E.	35.67	47.15	57.12	9.90	22.95						
	15		A.	34.95	37.45	40.35	43.39	45.95						
	16		B.	5.95	7.98	10.40	12.99	14.87						
	17	α Virginis	C.	34.87	36.94	39.00	41.05	43.09	16 38.96	− 0.42	+43.30	13 17 21.84	− 4.15	
	18		D.	2.97	5.44	7.47	9.59	12.00						
	19		E.	31.84	34.92	37.52	40.04	42.89						
	20		A.	46.54	49.16	52.05	55.13	57.93						
	21		B.	18.79	20.87	23.46	26.05	28.16						
	22	η Bootis	C.	48.83	51.00	53.09	55.13	57.43	46 53.10	− 0.08	+43.31	13 47 36.33	− 3.85	
	23		D.	18.13	20.58	22.80	24.97	27.50						
	24		E.	48.05	51.45	54.02	56.59	59.70						
	25		A.	2.86	5.65	8.47	11.64	14.37						
	26		B.	35.22	37.28	39.94	42.45	44.36						
	27	α Bootis	C.	5.57	7.50	9.85	11.85	14.04	8 9.77	− 0.07	+43.32	14 8 53.02	− 3.80	
	28		D.	34.92	37.40	39.62	41.75	44.46						
	29		E.	5.17	8.40	11.00	13.62	16.80						
	30		A.	35.55	38.39	41.51	44.95	47.81						
	31	ε Bootis	B.	10.00	12.20	14.99	17.90	19.95	37 30.42	+16.27	+43.34	14 38 30.06	− 3.87	
	32		C.	42.20	44.11	46.70	49.05	51.20		+ 0.03				
	33		D.	13.20	16.09	18.47	20.65	23.38						
	34		A.	51.92	54.50	57.32	0.50	3.00						
	35		B.	23.35	25.51	28.00	30.75	32.70						
	36	α^2 Libræ	C.	52.85	54.94	57.23	59.27	1.20	41 57.12	− 0.48	+43.34	14 42 39.98	− 4.81	
	37		D.	21.69	24.00	26.05	28.45	30.83						
	38		E.	51.15	54.17	56.87	59.31	2.43						
	39		A.	29.26	38.60	49.35	0.88	10.33						
	40		B.	25.31	32.85	41.73	51.51	58.64						
	41	β Ursæ Minoris	C.	13.78	21.13	29.31	36.49	44.00	50 28.90	+ 1.97	+43.35	14 51 14.22	− 2.17	
	42		D.	58.69	8.00	15.70	23.33	33.38						
	43		E.	47.00	58.76	8.17	17.79	28.44						
	44		A.	14.53	16.90	19.85	22.98	25.51						
	45		B.	45.18	47.44	49.92	52.31	54.31						
	46	β Libræ	C.	14.17	16.30	18.24	20.19	22.22	8 18.23	− 0.40	+43.35	15 9 1.18	− 4.77	
	47		D.	42.18	44.55	46.69	48.80	51.05						
	48		E.	10.94	13.97	16.51	19.04	21.94						
	49		A.	30.24	33.10	36.24	39.43	42.24						
	50		B.	4.39	6.65	9.53	12.18	14.40						
	51	α Coronæ Borealis	C.	36.23	38.84	41.05	43.19	45.89	27 41.0	+ 0.02	+43.36	15 28 24.38	− 4.04	
	52		D.	7.57	10.29	12.65	14.95	17.72						
	53		E.	39.55	42.84	45.59	48.54	51.72						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $15^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
June 21	+ 0 41.42	lg 0.041	− 0.287	+ 0.630	0.00
24	+ 0 43.35	lg 0.031	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	34.20	36.80	39.55	42.71	45.16						
	2		B.	5.24	7.25	9.78	12.24	14.20						
June 25	3	α Virginis	C.	34.15	36.19	38.22	40.26	42.32	16 38.23	− 0.42	+44.07	13 17 21.88	− 4.14	K.
	4		D.	2.20	4.69	6.80	8.90	11.42						
	5		E.	31.10	34.25	36.80	39.20	42.25						
	6		B.	5.70	8.79	12.75	16.40	19.42						
	7		C.	50.05	53.05	56.40	59.30	2.55		−22.42				
	8	η Ursæ Majoris	D.	33.04	36.70	40.00	43.26	47.05	41 18.68	+ 0.45	+44.09	13 41 40.80	− 3.24	
	9		E.	17.29	22.11	25.92	29.60	34.22						
	10		A.	2.07	4 71	7.69	10.81	13.50						
	11		B.	34.51	36.50	39.10	41.79	43.88						
	12	α Bootis	C.	4.72	6.95	8.96	11.12	13.28	8 9.01	− 0.07	+44.10	14 8 53.04	− 3.79	
	13		D.	34.05	36.62	38.81	41.07	43.64						
	14		E.	4.43	7.56	10.36	12.91	16.04						
	15		A.	50.90	53.64	56.50	59.50	2.27						
	16		B.	22.78	24.80	27.30	29.81	31.84						
	17	α^2 Libræ	C.	52.17	54.30	56.43	58.50	0.65	41 56.35	− 0.48	+44.12	14 42 39.99	− 4.80	
	18		D.	20.75	23.29	25.46	27.65	30.10						
	19		E.	50.30	53.50	56.05	58.67	1.60						
	20		A.	42.92	45.61	48.81	52.18	54.96						
	21		B.	17.20	19.33	22.34	25.04	27.20						
28	22	ε Bootis	C.	49.40	51.73	53.81	56.20	58.60	38 53.93	+ 0.03	−24.24	14 38 29.72	− 3.83	
	23		D.	20.60	23.39	25.65	27.93	30.72						
	24		E.	52.74	56.15	58.96	1.72	5.05						
	25		A.	59.20	1.78	4.70	7.74	10.35						
	26		B.	30.80	32.87	35.33	37.90	39.97						
	27	α^2 Libræ	C.	0.30	2.34	4.44	6.51	8.56	43 4.45	− 0.48	−24.20	14 42 39.77	− 4.78	
	28		D.	28.98	31.36	33.59	35.72	38.24						
	29		E.	58.39	1.60	4.19	6.74	9.64						
	30		A.	36.51	45.60	56.59	7.89	17.39						
	31		B.	32.35	39.71	49.39	58.76	6.05						
	32	β Ursæ Minoris	C.	20.69	28.33	35.80	43.74	51.51	51 35.98	+ 1.97	−24.14	14 51 13.81	− 1.92	
	33		D.	5.60	15.10	22.49	30.85	39.89						
	34		E.	54.06	5.70	15.30	24.53	35.73						
	35		A.	37.50	40.20	43.50	46.76	49.54						
	36		B.	11.78	13.94	16.78	19.45	21.58						
	37	α Coronæ Borealis	C.	43.72	46.00	48.20	50.41	52.75	28 48.22	+ 0.02	−23.87	15 28 24.37	− 4.01	
	38		D.	14.76	17.41	19.79	22.02	24.80						
	39		E.	46.77	50.20	52.91	55.61	58.99						
	40		A.	28.59	39.80	53.53	5.30	15.65						
	41		B.	47.39	0.25	14.76	28.27	41.35						
	42	ζ Ursæ Minoris	C.	28.75	40.57	53.64	6.31	18.20	49 53.75	+ 2.66	−23.71	15 49 32.70	− 1.62	
	43		D.	3.80	18.69	30.78	43.20	56.55						
	44		E.	26.15	37.25	47.84	57.73	9.41						
	45		A.	55.36	57.89	0.61	3.58	6.19						
	46		B.	25.92	27.90	30.30	32.75	34.68						
	47	δ Ophiuchi	C.	54.38	56.34	58.40	0.40	2.39	6 58.39	− 0.34	−23.59	16 6 34.46	− 4.85	
	48		D.	22.09	24.45	26.53	28.55	30.94						
	49		E.	50.55	53.52	56.10	58.47	1.40						
	50		A.	9.91	12.42	15.80	18.97	21.97						
July 2	51	ε Bootis	B.	44.14	46.40	49.28	51.95	54.10	38 20.81	+ 0.03	+ 8.91	14 38 29.75	− 3.79	
	52		D.	47.38	49.97	52.39	54.89	57.55						
	53		E.	19.70	23.19	25.93	28.50	31.85						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
June 25	+ 0 44.13	lg 0.033	− 0.287	+ 0.630	0.00
28	− 0 24.08	lg 0.445	− 0.287	+ 0.630	0.00
July 2	+ 0 8.99	lg 0.211	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s	s.	s.	h. m. s.	s.	
	1		A.	26.20	28.72	31.70	34.66	37.32						
	2		B.	57.18	59.84	2.30	4.87	6.90						
July 2	3	α^2 Libræ	C.	27.38	29.34	31.44	33.51	35.68	42 31.41	− 0.48	+ 8.93	14 42 39.86	− 4.75	K.
	4		D.	55.85	58.40	0.57	2.70	5.14						
	5		E.	25.43	28.58	31.10	33.74	36.61						
	6		A.	2.72	12.41	22.98	34.39	43.73						
	7		B.	59.40	6.41	15.83	24.81	32.69						
	8	β Ursæ Minoris	C.	46.94	54.69	2.76	10.27	18.00	51 2.49	+ 1.97	+ 8.96	14 51 13.42	− 1.66	
	9		D.	32.10	41.24	49.27	57.50	6.29						
	10		E.	21.00	31.88	41.83	51.20	1.96						
	11		B.	43.24	45.26	47.78	50.42	52.23						
	12	Libræ (5184)	C.	12.68	14.84	16.85	18.75	21.05	34 16.86	+ 0.02 − 0.48	+ 9.11	15 34 25.51	− 5.23	
	13		D.	41.36	43.89	45.86	48.15	50.56						
	14		A.	33.26	35.98	38.74	42.00	44.57						
	15		B.	5.45	7.51	10.47	12.89	14.88						
	16	β^1 Scorpii	C.	35.67	37.88	39.91	42.09	44.29	56 39.95	− 0.52	+ 9.19	15 56 48.62	− 5.32	
	17		D.	4.94	7.55	9.71	11.91	14.57						
	18		E.	35.15	38.35	41.08	43.57	46.40						
	19		A.	22.39	24.75	27.68	30.69	33.19						
	20		B.	52.85	54.73	57.24	59.56	1.64						
	21	δ Ophiuchi	C.	21.36	23.40	25.34	27.34	29.40	6 25.37	− 0.34	+ 9.22	16 6 34.25	− 4.84	
	22		D.	48.87	51.30	53.41	55.41	57.89						
	23		E.	17.64	20.54	23.18	25.71	28.64						
	24		A.	37.98	43.00	49.20	55.54	1.24						
	25		B.	42.70	46.58	51.92	57.16	1.14						
	26	η Draconis	C.	42.95	47.15	51.23	55.77	0.05	21 51.38	+ 0.87	+ 9.28	16 22 1.53	− 3.12	
	27		D.	41.54	46.44	50.73	55.25	0.50						
	28		E.	41.74	48.10	53.40	58.56	4.61						
	29		A.	25.60	28.30	31.29	34.40	37.30						
	30		B.	57.80	59.88	2.50	5.20	7.31						
	31	Vesta	C.	28.00	30.03	32.09	34.09	36.46	48 32.14	− 0.51	+ 9.37	16 48 41.00	- - -	
	32		D.	57.16	59.68	1.84	4.09	6.42						
	33		E.	26.95	30.20	32.93	35.46	38.52						
	34		A.	1.57	4.30	7.61	10.96	13.96						
	35		B.	36.06	38.32	40.98	43.80	45.96						
5	36	ϵ Bootis	C.	8.21	10.45	12.64	15.00	17.38	38 12.71	+ 0.03	+17.13	14 38 29.87	− 3.75	
	37		D.	39.27	42.17	44.36	46.78	49.61						
	38		E.	11.59	14.90	17.61	20.42	23.88						
	39		A.	54.30	4.09	15.19	25.93	35.40						
	40		C.	38.23	46.11	54.00	1.61	9.65		−26.71				
	41	β Ursæ Minoris	D.	23.62	32.80	40.69	48.81	58.50	51 20.80	+ 1.97	+17.15	14 51 13.21	− 1.46	
	42		E.	12.50	24.00	33.68	43.16	53.73						
	43		B.	6.85	8.94	11.37	13.80	15.70						
	44		C.	35.54	37.49	39.69	41.70	43.62		−14.56				
	45	7th Mag. Dec. — 8° 55′	D.	3.64	6.08	8.13	10.18	12.61	5 54.25	− 0.40	+17.18	15 5 56.47	− 4.70	
	46		E.	32.40	35.46	37.89	40.40	43.45						
	47		A.	40.80	43.25	45.84	48.93	51.69						
	48		B.	11.65	13.49	16.07	18.56	20.57						
	49	β Libræ	C.	40.26	42.41	44.42	46.44	48.46	8 44.39	− 0.40	+17.19	15 9 1.18	− 4.71	
	50		D.	8.30	10.70	12.75	14.94	17.33						
	51		E.	37.00	40.06	42.69	45.20	47.97						
	52		A.	36.57	39.10	41.93	45.00	47.50						
	53		B.	7.85	9.93	12.45	15.14	17.05		+14.86				
	54	8th Mag. Dec.—14° 16′	C.	37.04	39.23	41.41	43.46	45.34	44 26.56	− 0.46	+17.25	15 44 58.21	− 5.07	
	55		D.	5.90	8.29	10.45	12.60	14.90						

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 15h. 0m. m. s.	s.	s.	s.	s.
July 2	+ 0 8.99	lg 0.211	−0.287	+ 0.630	0.00
5	+ 0 17.17	lg 0.108	−0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	25.04	27.64	30.61	33.81	36.56						
	2		B.	57.34	59.40	2.15	4.76	6.89						
July 5	3	β^1 Scorpii	C.	27.60	29.61	31.76	33.95	36.13	56 31.83	− 0.52	+17.27	15 56 48.58	− 5.31	K.
	4		D.	56.80	59.52	1.58	3.85	6.40						
	5		E.	27.05	30.18	32.98	35.50	38.55						
	6		A.	14.00	16.53	19.41	22.57	24.91						
	7		B.	44.65	46.54	49.12	51.45	53.51						
	8	δ Ophiuchi	C.	13.18	15.19	17.20	19.15	21.10	6 17.16	− 0.34	+17.29	16 6 34.11	− 4.83	
	9		D.	40.80	43.19	45.20	47.31	49.76						
	10		E.	9.29	12.33	14.85	17.45	20.33						
	11		A.	51.89	54.51	57.79	1.00	3.91						
	12		B.	25.80	28.08	30.71	33.56	35.64						
	13	α Scorpii	C.	57.32	59.74	1.94	4.16	6.36	20 1.94	− 0.61	+17.31	16 20 18.64	− 5.70	
	14		D.	28.21	31.00	33.10	35.52	38.06						
	15		E.	59.99	3.28	6.05	8.76	12.05						
	16		A.	26.50	29.04	32.10	35.26	37.91						
	17		B.	58.68	0.65	3.19	5.75	7.89						
	18	Vesta	C.	28.61	30.67	32.77	35.04	37.17	46 32.82	− 0.51	+17.36	16 46 49.67	- - -	
	19		D.	57.14	0.36	2.37	4.59	7.09						
	20		E.	27.79	31.04	33.56	36.12	39.24						
	21		A.	39.78	42.37	45.58	48.94	51.69						
	22		B.	13.91	16.16	18.87	21.53	23.84						
12	23	α Coronæ Borealis	C.	45.82	48.05	50.34	52.64	54.92	27 50.38	+ 0.02	+33.75	15 28 24.15	− 3.88	
	24		D.	16.78	19.64	21.80	24.36	26.95						
	25		E.	48.88	52.27	55.20	57.94	1.14						
	26		A.	20.27	22.69	25.67	28.59	31.30						
	27		B.	50.94	53.07	55.61	57.97	59.95						
	28	α Serpentis	C.	19.53	21.64	23.62	25.69	27.80	36 23.73	− 0.23	+33.77	15 36 57.27	− 4.41	
	29		D.	47.57	49.97	51.98	54.22	56.40						
	30		E.	16.31	19.40	21.84	24.13	27.14						
	31	ζ Ursæ Minoris	C.	36.15	46.10	55.30	5.27	15.49	50 4.66	−68.81	+33.79	15 49 32.30	− 0.51	
	32		D.	51.34	3.71	13.45	24.34	35.47		+ 2.66				
	33		A.	57.51	0.00	2.93	5.80	8.32						
	34		B.	28.05	30.09	32.39	34.81	36.82						
	35	δ Ophiuchi	C.	56.24	58.72	0.50	2.45	4.60	6 0.55	− 0.34	+33.82	16 6 34.03	− 4.80	
	36		D.	24.20	26.65	28.63	30.75	33.10						
	37		E.	52.74	55.74	58.26	0.69	3.79						
	38		B.	40.96	42.92	45.31	47.85	49.80						
	39		C.	9.65	11.64	13.71	15.70	17.76	8 28.26	−14.56	+47.80	15 9 1.10	− 4.61	
17	40	β Libræ	D.	37.60	39.97	42.00	44.13	46.60		− 0.40				
	41		E.	6.36	9.46	11.96	14.40	17.40						
	42		A.	25.59	28.41	31.46	34.87	37.66						
	43		B.	59.80	1.96	4.79	7.61	9.78						
	44	α Coronæ Borealis	C.	31.79	34.04	36.10	38.65	40.90	27 36.33	+ 0.02	+47.82	15 28 24.17	− 3.82	
	45		D.	2.92	5.67	7.90	10.20	13.00						
	46		E.	34.86	38.19	41.03	43.89	47.09						
	47		A.	6.41	8.80	11.73	14.66	17.25						
	48		B.	36.95	38.98	41.48	43.80	45.92						
	49	α Serpentis	C.	5.70	7.65	9.74	11.73	13.75	36 9.73	− 0.23	+47.82	15 36 57.32	− 4.37	
	50		D.	33.54	35.95	38.00	40.04	42.56						
	51		E.	2.14	5.25	7.75	10.22	13.14						
	52		A.	32.55	44.44	58.21	13.26	25.62						
	53		B.	2.26	12.00	24.00	35.80	45.23						
	54	ζ Ursæ Minoris	C.	21.80	31.17	41.95	52.00	1.54	48 41.61	+ 2.66	+47.83	15 49 32.10	− 0.06	
	55		D.	37.17	49.27	59.10	10.26	21.39						
	56		E.	56.47	12.39	24.51	36.83	51.10						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $15^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
July 5	+ 0 17.17	lg 0.108	− 0.287	+ 0.630	0.00
12	+ 0 33.70	lg 0.109	− 0.287	+ 0.630	0.00
17	+ 0 47.79	lg 0.057	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	54.55	57.10	0.03	3.06	5.70						
	2		B.	26.69	28.80	31.45	34.05	35.94						
July 17	3	β^1 Scorpii	C.	56.86	59.15	1.16	3.20	5.42	56 1.12	− 0.52	+47.83	15 56 48.43	− 5.23	K.
	4		D.	26.26	28.69	30.81	33.00	35.54						
	5		E.	56.39	59.50	2.17	4.62	7.90						
	6		A.	43.51	45.91	48.80	51.80	54.30						
	7		B.	13.95	15.94	18.50	20.89	22.80						
	8	δ Ophiuchi	C.	42.54	44.44	46.52	48.59	50.52	5 46.51	− 0.34	+47.85	16 6 34.02	− 4.76	
	9		D.	10.32	12.42	14.63	16.72	19.12						
	10		E.	38.69	41.71	44.09	46.69	49.49						
	11	α Scorpii	D.	57.40	0.26	2.46	4.88	7.49	20 18.88	−47.68	+47.86	16 20 18.45	− 5.64	
	12		E.	29.15	32.59	35.33	37.98	41.27		− 0.61				
	13		A.	21.83	24.41	27.48	30.59	33.17						
	14		B.	54.20	56.20	58.88	1.42	3.61						
	15	Vesta	C.	24.38	26.54	28.69	30.72	32.90	41 28.64	− 0.53	+47.88	16 42 15.99	- - -	
	16		D.	53.75	56.37	58.51	0.69	3.22						
	17		E.	23.95	27.10	29.83	32.23	35.21						
	18		A.	23.00	25.56	28.67	32.28	34.97						
	19		B.	56.51	58.90	1.46	4.16	6.34						
	20	7th Mag. Dec.—26° 22′	C.	28.00	30.17	32.39	34.50	36.84	7 32.43	− 0.62	+47.90	17 8 19.71	− 5.89	
	21		D.	58.56	1.15	3.47	5.67	8.32						
	22		E.	29.91	33.37	35.95	38.82	41.85						
	23		A.	10.55	13.13	15.86	19.10	21.63						
	24		B.	41.93	43.88	46.22	48.93	50.74						
	25	α Ophiuchi	C.	11.00	13.00	14.97	17.04	19.00	27 15.04	− 0.16	+47.92	17 28 2.80	− 4.64	
	26		D.	39.30	41.79	43.90	45.88	48.28						
	27		E.	8.45	11.38	14.24	16.56	19.30						
	28		A.	55.88	58.32	1.17	4.16	6.71						
	29		B.	26.40	28.40	30.88	33.25	35.15						
27	30	α Ceti	C.	54.89	56.88	58.88	0.90	2.87	53 58.92	− 0.26	+31.62	2 54 30.28	− 3.76	
	31		D.	22.56	25.00	26.92	29.18	31.55						
	32		E.	51.16	54.09	56.61	59.06	2.05						
	33		A.	34.78	38.56	42.94	47.58	51.34						
	34		B.	21.69	24.54	28.42	32.00	34.96						
	35	α Persei	C.	5.10	8.31	11.40	14.31	17.53	13 11.34	+ 0.43	+31.61	3 13 43.38	− 5.09	
	36		D.	47.51	51.28	54.44	57.65	1.28						
	37		E.	31.24	35.84	39.71	43.34	47.81						
	38		A.	58.50	1.00	4.20	7.37	10.13						
	39		B.	31.68	33.79	36.40	39.00	41.18						
	40	η Tauri	C.	2.58	4.90	7.00	9.21	11.40	38 7.04	− 0.03	+31.61	3 38 38.62	− 4.07	
	41		D.	32.80	35.40	37.72	39.96	42.52						
	42		E.	3.86	7.13	9.89	12.59	15.78						
	43		A.	45.77	48.23	51.30	54.26	56.99						
	44		B.	17.50	19.54	22.07	24.63	26.62						
	45	α Tauri	C.	47.04	49.19	51.28	53.33	55.49	26 51.27	− 0.12	+31.60	4 27 22.75	− 3.66	
	46		D.	15.90	18.33	20.38	22.70	25.17						
	47		E.	45.56	48.58	51.30	53.83	56.81						
	48		B.	22.85	25.61	29.28	32.82	35.40						
	49	α Aurigæ	C.	3.61	6.47	9.37	12.25	15.24	5 30.07	−20.65	+31.59	5 5 41.36	− 4.42	
	50		D.	43.20	46.74	49.64	52.74	56.19		+ 0.35				
	51		E.	24.18	28.53	31.97	35.53	39.74						
	52		A.	22.72	25.22	28.11	31.13	33.59						
	53		B.	53.54	55.47	57.97	0.34	2.31						
28	54	α Serpentis	C.	22.08	24.09	26.02	28.15	30.16	36 26.13	− 0.23	+31.25	15 36 57.15	− 4.25	
	55		D.	49.92	52.33	54.38	56.48	58.85						
	56		E.	18.56	21.58	24.15	26.63	29.45						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 16h. 0m.				
	m. s.	s.	s.	s.	s.
July 17	+ 0 47.84	lg 0.057	− 0.287	+ 0.630	0.00
27	+ 0 31.76	g 0.013	− 0.287	+ 0.630	0.00
28	+ 0 31.25	g 0.007	− 0.287	+ 0.630	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	47.76	58.86	12.98	27.59	40.09						
	2		B.	16.76	26.57	38.86	50.60	0.32						
July 28	3	ζ Ursæ Minoris	C.	36.60	46.40	56.25	6.29	16.36	48 56.35	+ 2.66	+31.25	15 49 30.26	+ 1.01	K.
	4		D.	52.25	4.09	13.95	24.49	36.17						
	5		E.	12.22	26.99	39.31	51.35	5.57						
	6		A.	0.06	2.56	5.34	8.34	10.91						
	7		B.	30.59	32.60	35.02	37.30	39.30						
	8	δ Ophiuchi	C.	59.05	0.96	3.11	5.05	7.10	6 3.05	− 0.34	+31.25	16 6 33.96	− 4.67	
	9		D.	26.68	29.09	31.15	33.18	35.65						
	10		E.	55.16	58.17	0.62	3.24	6.08						
	11		A.	37.81	40.53	43.72	46.95	49.71						
	12		B.	11.85	13.76	16.71	19.37	21.44						
	13	α Scorpii	C.	43.36	45.65	47.97	50.08	52.39	19 47.87	− 0.61	+31.25	16 20 18.51	− 5.54	
	14		D.	14.30	16.93	19.14	21.48	24.12						
	15		E.	45.79	49.17	52.00	54.70	57.90						
	16		A.	3.76	6.89	10.26	14.29	17.60						
	17		B.	42.80	45.26	48.50	51.42	54.05		+18.44				
	18	α Lyræ	C.	19.10	21.63	24.10	26.81	29.40	31 5.86	+ 0.20	+31.23	18 31 55.73	− 4.17	
	19		D.	54.59	57.50	0.52	2.80	5.98						
	20		A.	44.00	46.70	49.79	53.00	55.64						
	21		B.	16.76	18.76	21.43	23.93	26.05						
Aug. 2	22	μ Sagittarii	C.	47.15	49.43	51.60	53.67	55.84	4 51.49	− 0.39	+ 2.20	18 4 53.30	− 5.78	
	23		D.	16.78	19.40	21.50	23.80	26.32						
	24		E.	47.34	50.57	53.19	55.72	58.85						
	25		A.	32.69	35.65	39.20	43.31	46.30						
	26		B.	11.59	14.13	17.24	20.45	22.89						
	27	α Lyræ	C.	48.10	50.57	53.14	55.78	58.29	31 53.16	+ 0.20	+ 2.21	18 31 55.57	− 4.13	
	28		D.	23.35	26.56	29.13	31.70	34.81						
	29		E.	59.87	3.66	6.87	10.02	13.68						
	30		A.	19.30	22.23	25.63	29.04	32.06						
	31		B.	55.65	58.00	0.94	3.83	6.19						
	32	β Lyræ	C.	29.64	32.02	34.50	36.76	39.14	44 34.43	+ 0.13	+ 2.22	18 44 36.78	− 4.30	
	33		D.	2.60	5.58	7.96	10.39	13.23						
	34		E.	36.67	40.32	43.24	46.10	49.71						
	35		A.	28.97	31.38	34.21	37.36	39.90						
	36		B.	0.23	2.27	4.69	7.30	9.31						
	37	ζ Aquilæ	C.	29.60	31.50	33.71	35.78	37.80	58 33.63	− 0.08	+ 2.22	18 58 35.77	− 4.84	
	38		D.	57.98	0.38	2.50	4.71	7.16						
	39		E.	27.14	30.28	32.84	35.36	38.35						
	40		A.	26.75	29.11	31.95	34.90	37.44						
	41		B.	57.16	59.13	1.65	4.05	5.98						
6	42	δ Ophiuchi	C.	25.69	27.72	29.64	31.65	33.71	6 29.68	− 0.23	+ 4.37	16 6 33.82	− 4.57	
	43		D.	53.32	55.74	57.80	59.84	2.28						
	44		E.	21.78	24.82	27.34	29.85	32.74						
	45		A.	14.98	17.60	20.56	23.67	26.23						
	46		B.	47.09	49.17	51.74	54.27	56.27						
	47	χ Ophiuchi	C.	16.94	19.10	21.17	23.30	25.43	18 21.19	− 0.36	+ 4.37	16 18 25.20	− 5.09	
	48		D.	46.06	48.60	50.72	52.86	55.40						
	49		E.	15.95	19.13	21.75	24.39	27.41						
	50		A.	28.94	31.49	34.42	37.54	40.11						
	51		B.	0.61	2.79	5.34	7.93	9.92						
	52	φ Ophiuchi	C.	30.32	32.40	34.54	36.62	38.71	22 34.49	− 0.35	+ 4.38	16 22 38.52	− 5.06	
	53		D.	58.98	1.59	3.72	5.89	8.31						
	54		E.	28.74	31.86	34.46	37.07	40.01						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 16h. 0m. m. s.	s.	s.	s.	s.
July 28	+ 0 31.25	g 0.007	− 0.287	+ 0.630	0.00
Aug. 2	+ 0 2.15	lg 0.024	− 0.183	+ 0.500	0.00
	+ 0 4.41	lg 0.020	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	42.34	45.03	48.29	51.49	54.20						
	2		B.	16.14	18.27	20.97	23.61	25.74						
Aug. 6	3	Dec. + 25° 03′	C.	47.41	49.60	51.96	54.10	56.73	8 51.87	+ 0.03	+ 4.39	17 8 56.29	− 4.03	K.
	4		D.	17.94	20.40	22.91	25.14	27.84						
	5		E.	49.24	52.75	55.35	58.06	1.17						
	6		C.	17.26	19.30	21.54	23.70	25.96						
	7	Moon 1st L.	D.	47.39	49.94	52.21	54.44	57.10	11 52.74	−30.94 − 0.38	+ 4.39	17 12 33.55	- - -	
	8		E.	18.55	21.67	24.53	27.24	30.32						
	9		C.	10.11	12.37	14.51	16.59	18.90						
	10	Ophiuchi (5876)	D.	40.32	42.97	45.24	47.44	50.12	17 45.73	−31.25 − 0.42	+ 4.39	17 17 18.45	− 5.67	
	11		E.	11.54	14.81	17.49	20.21	23.30						
	12		A.	54.06	56.56	59.38	2.50	5.04						
	13		B.	25.24	27.35	29.83	32.20	34.31						
	14	α Ophiuchi	C.	54.40	56.49	58.49	0.58	2.66	27 58.51	− 0.09	+ 4.40	17 28 2.82	− 4.50	
	15		D.	22.71	25.18	27.29	29.44	31.84						
	16		E.	51.84	54.94	57.59	0.00	2.95						
	17		A.	50.41	53.00	55.94	58.92	1.64						
	18		B.	21.83	23.85	26.24	28.90	30.87						
14	19	α Ophiuchi	C.	50.98	53.05	55.05	57.11	59.15	27 55.06	− 0.09	+ 7.73	17 28 2.70	− 4.40	
	20		D.	19.20	21.77	23.81	26.00	28.47						
	21		E.	48.37	51.56	54.17	56.67	59.55						
	22		A.	21.16	25.08	29.69	34.35	38.52						
	23		B.	9.87	13.36	17.20	21.09	24.32						
	24	γ Draconis	C.	55.92	59.16	2.34	5.66	8.54	53 2.33	+ 0.40	+ 7.74	17 53 10.47	− 3.14	
	25		D.	40.40	44.19	47.47	50.80	54.54						
	26		E.	26.19	31.24	34.98	38.80	43.50						
	27		A.	38.46	41.08	44.09	47.48	49.90						
	28		B.	11.06	13.14	15.85	18.45	20.51						
	29	μ^1 Sagittarii	C.	41.45	43.64	45.82	48.09	50.12	4 45.85	− 0.39	+ 7.74	18 4 53.20	− 5.69	
	30		D.	11.13	13.19	15.82	18.12	20.71						
	31		E.	41.68	44.89	47.63	50.20	53.25						
	32		B.	21.44	23.49	25.98	28.41	30.49						
	33		C.	50.61	52.68	54.67	56.74	58.84		−14.75				
15	34	α Ophiuchi	D.	18.97	21.42	23.50	25.58	28.17	28 9.46	− 0.09	+ 8.04	17 28 2.66	− 4.39	
	35		E.	48.00	51.19	53.72	56.00	59.30						
	36		A.	16.13	18.61	21.38	24.27	26.86						
	37		B.	46.53	48.76	51.06	53.28	55.43						
	38	γ Ophiuchi	C.	14.97	17.16	19.17	21.21	23.23	40 19.13	− 0.18	+ 8.05	17 40 27.00	− 4.71	
	39		D.	42.96	45.14	47.37	49.32	51.78						
	40		E.	11.36	14.29	16.61	19.31	22.10						
	41		A.	33.71	36.22	39.19	42.16	44.88						
	42		B.	5.09	7.47	9.97	12.45	14.42		+14.97				
	43	Serpentis (6065)	C.	34.80	36.94	38.97	41.07	43.20	47 24.08	− 0.34	+ 8.05	17 47 46.76	− 5.37	
	44		D.	3.39	6.06	8.23	10.36	13.00						
	45		A.	38.13	40.73	43.68	46.76	49.58						
	46		C.	41.33	43.50	45.47	47.73	49.90		− 7.52				
	47	μ^1 Sagittarii	D.	10.80	13.20	15.52	17.69	20.36	4 53.02	− 0.39	+ 8.05	18 4 53.16	− 5.68	
	48		E.	41.39	44.59	47.20	49.80	52.96						
	49	α Lyræ	A.	26.64	29.74	33.29	37.29	40.28	30 52.38	+54.82	+ 8.06	18 31 55.46	− 3.95	
	50		B.	5.70	8.12	11.40	14.54	16.86		+ 0.20				
	51		C.	23.80	26.17	28.63	30.88	33.29						
	52	β Lyræ	D.	56.81	59.68	2.00	4.58	7.45	45 2.63	−34.11 + 0.13	+ 8.06	18 44 36.71	− 4.16	
	53		E.	30.60	34.30	37.29	40.29	43.78						
	54		C.	26.52	29.58	32.44	35.29	38.31						
25	55	α Aurigæ	D.	6.40	9.73	12.64	15.68	19.27	6 13.42	−40.96 + 0.31	+ 9.72	5 5 42.49	− 5.54	
	56		E.	47.19	51.51	55.10	58.74	2.98						

7. Adopted Correction for Semidiameter. = + 67ˢ. 74.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 18ʰ. 0ᵐ. m. s.	s.	s.	s.	s.
Aug. 6	+ 0 4.41	lg 0.020	− 0.183	+ 0.500	0.00
14	+ 0 7.74	lg 0.013	− 0.183	+ 0.500	0.00
15	+ 0 8.05	lg 0.014	− 0.183	+ 0.500	0.00
25	+ 0 9.71	lg 0.001	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	31.99	34.94	37.97	41.40	44.39						
	2		B.	6.76	8.84	11.73	14.46	16.68		+ 7.97				
Aug. 25	3	β Tauri	C.	39.20	41.17	43.52	45.93	48.20	16 35.64	+ 0.07	+ 9.72	5 16 53.40	— 4.69	K.
	4		E.	42.86	46.42	49.20	51.78	55.40						
	5		A.	36.28	38.97	41.98	45.20	47.95						
	6		B.	8.95	11.16	13.65	16.38	18.40		+15.44				
26	7	μ^1 Sagittarii	C.	39.50	41.48	43.73	45.86	47.98	4 28.31	— 0.39	+ 9.75	18 4 53.11	— 5.54	
	8		D.	8.91	11.48	13.87	15.98	18.57						
	9		A.	24.71	27.98	31.64	35.34	38.66						
	10	α Lyræ	B.	3.77	6.16	9.42	12.46	14.93	31 33.32	+11.96	+ 9.75	18 31 55.23	— 3.76	
	11		E.	51.81	55.89	58.94	2.22	5.82		+ 0.20				
	12		A.	47.99	50.48	53.39	56.41	59.10						
	13		B.	19.30	21.29	23.86	26.37	28.30						
27	14	α Ophiuchi	C.	48.60	50.48	52.44	54.67	56.89	27 52.52	— 0.09	+10.04	17 28 2.47	— 4.21	
	15		D.	16.74	19.10	21.10	23.32	25.73						
	16		E.	45.95	48.98	51.53	53.94	57.08						
	17		B.	1.81	4.00	6.97	9.52	11.76						
	18	87 Herculis (6033)	C.	33.48	35.75	37.98	40.09	42.39	42 53.91	—15.97	+10.05	17 42 48.03	— 3.85	
	19		D.	4.10	6.84	9.11	11.53	14.16		+ 0.04				
	20		E.	35.68	38.96	41.75	44.54	47.75						
	21		B.	7.63	10.81	14.91	18.78	21.67						
	22		C.	53.41	56.65	59.71	2.92	6.12		—23.12				
	23	γ^1 Draconis	D.	37.79	41.60	44.81	48.16	52.16	53 22.89	+ 0.42	+10.05	17 53 10.24	— 2.81	
	24		E.	23.45	28.16	32.31	36.09	40.70						
	25		A.	50.40	16.74	45.99	11.54	37.00						
	26		B.	5.31	32.84	57.81	25.48	51.23						
	27	δ Ursæ Minoris	C.	4.92	37.99	15.57	46.14	30.76	20 11.36	+ 7.97	+10.05	18 20 29.38	+14.22	
	28		D.	59.15	26.00	53.00	20.21	46.05						
	29		E.	12.70	37.24	7.00	34.00	58.87						
	30		A.	47.80	50.22	53.10	56.21	58.79						
	31		C.	48.16	50.26	52.23	54.32	56.48		— 7.19				
28	32	α Ophiuchi	D.	16.45	19.00	21.09	23.09	25.58	27 59.43	— 0.09	+10.35	17 28 2.50	— 4.20	
	33		E.	45.61	48.78	51.22	53.63	56.73						
	34		A.	13.69	16.00	18.92	21.83	24.53						
	35		B.	44.09	46.17	48.67	51.12	53.09						
	36	γ Ophiuchi	C.	12.78	14.80	16.70	18.78	20.74	40 16.70	— 0.18	+10.36	17 40 26.88	— 4.54	
	37		D.	40.41	42.68	44.80	46.72	49.22						
	38		E.	8.90	11.98	14.35	16.91	19.70						
	39		A.	18.33	22.20	26.69	31.49	35.56						
	40		B.	7.37	10.51	14.48	18.30	21.47						
	41	γ Draconis	C.	53.07	56.52	59.41	2.72	6.06	52 59.39	+ 0.42	+10.36	17 53 10.17	— 2.74	
	42		D.	37.19	41.00	44.41	47.65	51.56						
	43		E.	23.02	28.04	31.77	35.45	40.35						
	44		A.	35.39	37.91	41.00	44.19	46.92						
	45		B.	7.95	10.07	12.76	15.26	17.45						
29	46	μ^1 Sagittarii	C.	38.48	40.61	42.75	44.96	47.05	4 42.77	— 0.39	+10.59	18 4 52.97	— 5.50	
	47		D.	8.10	10.69	12.83	15.09	17.69						
	48		E.	38.55	41.75	44.48	47.07	50.17						
	49		A.	23.88	26.92	30.38	34.35	37.50						
	50		B.	2.78	5.51	8.42	11 47	14.13						
	51	α Lyræ	C.	39.20	41.73	44.38	47.00	49.51	31 44.35	+ 0.20	+10.60	18 31 55.15	— 3.70	
	52		D.	14.56	17.79	20.27	22.95	26.10						
	53		E.	51.10	54.89	57.88	1.11	4.91						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $18^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Aug. 26	+ 0 9.75	lg 0.006	— 0.183	+ 0.500	0.00
27	+ 0 10.05	lg 0.013	— 0.183	+ 0.500	0.00
28	+ 0 10.36	lg 0.011	— 0.183	+ 0.500	0.00
29	+ 0 10.60	lg 0.011	— 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	46.80	49.30	52.25	55.43	57.59						
	2		C.	21.15	23.35	25.73	28.38	30.60		−17.20				
Aug. 29	3	β Lyræ - - - - -	D.	54.00	56.95	59.26	1.78	4.55	44 42.99	+ 0.13	+10.60	18 44 36.52	− 3.95	K.
	4		E.	28.00	31.50	34.65	37.66	40.80						
	5		A.	47.14	49.63	52.49	55.61	58.02						
	6		B.	18.41	20.40	22.96	25.48	27.38						
30	7	α Ophiuchi - - - -	C.	47.52	49.54	51.59	53.57	55.71	27 51.62	− 0.09	+10.90	17 28 2.43	− 4.16	
	8		D.	15.86	18.31	20.30	22.51	25.00						
	9		E.	44.99	48.09	50.67	53.14	56.10						
	10		A.	56.04	58.61	1.89	5.04	7.93						
	11		B.	29.42	31.49	34.27	37.00	39.16						
	12	84 Herculis (6005) - -	C.	0.43	2.84	5.09	7.21	9.55	37 5.07	+ 0.03	+10.91	17 37 16.01	− 3.78	
	13		D.	30.98	33.71	35.86	38.14	40.78						
	14		E.	2.37	5.63	8.30	10.99	14.16						
	15		A.	27.27	29.84	33.07	36.44	39.16						
	16		B.	1.02	3.20	5.94	8.72	10.83						
	17	87 Herculis (6033) - -	C.	32.58	34.82	37.05	39.33	41.48	42 37.05	+ 0.04	+10.91	17 42 48.00	− 3.78	
	18		D.	3.24	5.95	8.16	10.51	13.05						
	19		E.	34.94	38.14	40.90	43.63	46.90						
	20		A.	30.60	33.00	36.00	39.09	41.71						
	21		B.	2.20	4.22	6.81	9.38	11.38						
	22	Serpentis (6065) - -	C.	31.81	33.83	35.91	38.00	40.15	47 35.92	− 0.34	+10.91	17 47 46.49	− 5.16	
	23		D.	0.37	2.91	5.10	7.34	9.80						
	24		E.	29.93	33.16	35.74	38.32	41.29						
	25		A.	35.03	37.73	40.60	43.91	46.63						
	26		B.	7.58	9.87	12.41	15.02	17.22						
	27	μ^1 Sagittarii - - - -	C.	38.12	40.21	42.50	44.52	46.69	4 42.45	− 0.39	+10.91	18 4 52.97	− 5.48	
	28		D.	7.70	10.34	12.51	14.79	17.31						
	29		E.	38.28	41.48	44.04	46.79	49.91						
	30		A.	6.22	8.97	12.32	15.83	18.61						
	31		B.	41.29	43.50	46.36	49.26	51.63						
	32	δ Sagittarii - - - -	C.	14.09	16.49	18.72	21.08	23.50	11 18.77	− 0.40	+10.91	18 11 29.28	− 5.88	
	33		D.	46.00	48.85	51.21	53.54	56.24						
	34		E.	18.86	22.25	25.20	27.98	31.31						
	35		A.	34.44	47.91	1.85	13.31	29.03						
	36		B.	42.28	54.95	9.10	22.97	35.85						
	37	δ Ursæ Minoris - - -	C.	2.41	35.48	10.33	41.19	16.56	20 9.27	+ 7.97	+10.91	18 20 28.15	+15.25	
	38		D.	43.35	55.48	10.29	23.76	36.67						
	39		E.	49.87	2.00	17.77	30.57	44.42						
	40		A.	23.54	26.76	30.18	34.11	37.30						
	41		B.	2.53	5.20	8.10	11.40	13.94						
	42	α Lyræ - - - - -	C.	39.00	41.55	44.06	46.69	49.34	31 44.10	+ 0.20	+10.92	18 31 55.22	− 3.68	
	43		D.	14.27	17.45	20.00	22.71	25.86						
	44		E.	50.73	54.53	57.80	0.87	4.57						
	45		A.	4.79	7.39	10.60	13.70	16.48						
	46		B.	37.57	39.84	42.59	45.29	47.31						
	47	Sagittarii (6380) - -	C.	8.47	10.78	12.79	14.98	17.20	37 12.84	− 0.41	+10.92	18 37 23.35	− 5.68	
	48		D.	38.40	40.93	43.16	45.19	48.00						
	49		E.	9.14	12.40	15.10	17.82	21.00						
	50		A.	10.26	13.13	16.55	20.00	23.08						
	51		B.	46.70	48.96	51.83	54.68	57.09						
	52	β Lyræ - - - - -	C.	20.50	22.93	25.41	27.84	30.34	44 25.39	+ 0.13	+10.92	18 44 36.44	− 3.93	
	53		D.	53.69	56.42	58.88	1.47	4.28						
	54		E.	27.60	31.02	34.26	37.16	40.75						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $18^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Aug. 29	+ 0 10.60	lg 0.011	− 0.183	+ 0.500	0.00
30	+ 0 10.91	lg 0.013	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	18.53	21.35	24.54	27.85	30.72						
	2		B.	53.10	55.37	57.96	0.79	2.94						
Aug. 30	3	τ Sagittarii	C.	25.14	27.52	29.72	31.97	34.27	57 29.71	− 0.46	+10.92	18 57 40.17	− 5.96	K.
	4		D.	56.45	59.10	1.44	3.84	6.54						
	5		E.	28.56	31.88	34.81	37.59	40.83						
	6		A.	3.62	5.94	8.85	11.88	14.37						
	7		B.	34.27	36.35	38.80	41.20	43.18						
Sept. 1	8	Ophiuchi (6143)	C.	3.09	5.31	7.36	9.25	11.25	0 7.23	− 0.12	+11.60	18 0 18.71	− 4.36	
	9		D.	31.03	33.44	35.69	37.82	40.20						
	10		E.	0.00	3.10	5.47	8.16	11.00						
	11		A.	34.34	36.90	39.88	43.19	45.90						
	12		B.	7.03	9.09	11.79	14.46	16.56						
	13	μ^1 Sagittarii	C.	37.49	39.80	41.85	43.90	45.98	4 41.78	− 0.39	+11.60	18 4 52.99	− 5.45	
	14		D.	7.11	9.62	11.88	14.13	16.60						
	15		E.	37.54	40.75	43.47	45.95	49.20						
	16		A.	18.87	32.90	46.35	0.00	13.17						
	17		B.	25.98	39.03	54.26	5.60	20.03						
	18	δ Ursæ Minoris	C.	58.92	33.88	5.95	40.20	14.55	20 6.90	+ 7.97	+11.60	18 20 26.47	+16.02	
	19		D.	54.00	7.58	20.76	34.62	47.98						
	20		E.	0.82	14.40	27.30	41.38	54.07						
	21		A.	22.80	25.75	29.42	33.17	36.60						
	22		B.	1.65	4.32	7.55	10.60	13.01						
	23	α Lyræ	C.	38.25	40.75	43.30	45.87	48.54	31 43.31	+ 0.20	+11.61	18 31 55.12	− 3.63	
	24		D.	13.56	16.59	19.15	21.80	24.93						
	25		E.	49.98	53.94	57.05	0.27	3.88						
	26		A.	9.46	12.28	15.78	19.19	22.25						
	27		B.	45.94	48.11	51.19	54.08	56.37						
	28	β Lyræ	C.	19.78	22.30	24.55	27.00	29.45	44 24.61	+ 0.13	+11.61	18 44 36.35	− 3.89	
	29		D.	52.82	55.70	57.98	0.48	3.33						
	30		E.	26.92	30.51	33.40	36.49	39.89						
	31		A.	19.24	21.82	24.60	27.64	30.21						
	32		B.	50.60	52.53	55.01	57.71	59.70						
	33	ζ Aquilæ	C.	19.80	21.82	23.92	25.96	28.03	58 23.94	− 0.08	+11.61	18 58 35.47	− 4.57	
	34		D.	48.14	50.57	52.80	54.92	57.45						
	35		E.	17.68	20.69	23.11	25.75	28.74						
	36		A.	22.40	25.17	28.97	32.69	35.98						
	37		B.	1.14	3.63	6.98	9.91	12.41						
3	38	α Lyræ	C.	37.61	39.99	42.70	45.19	47.99	31 42.66	+ 0.20	+12.21	18 31 55.07	− 3.58	
	39		D.	12.94	15.94	18.44	21.29	24.20						
	40		E.	49.15	53.00	56.29	59.48	3.09						
	41		A.	8.69	11.59	15.07	18.70	21.90						
	42		B.	45.07	47.28	50.46	53.52	55.76						
	43	β Lyræ	C.	19.07	21.65	24.05	26.45	28.78	44 23.98	+ 0.13	+12.22	18 44 36.33	− 3.85	
	44		D.	52.22	54.98	57.45	0.00	2.98						
	45		E.	26.05	29.88	32.85	35.80	39.28						
	46		A.	18.65	21.08	24.10	27.07	29.60						
	47		B.	49.97	51.94	54.46	56.99	59.00						
	48	ζ Aquilæ	C.	19.00	21.27	23.20	25.24	27.26	58 23.28	− 0.08	+12.22	18 58 35.42	− 4.54	
	49		D.	47.65	50.05	52.16	54.46	56.70						
	50		E.	16.90	20.11	22.40	24.90	27.90						
	51		A.	45.94	48.35	51.20	54.20	56.80						
	52		B.	16.45	18.48	20.91	23.34	25.25						
	53	δ Aquilæ	C.	44.95	46.96	49.00	50.99	52.95	17 48.93	− 0.17	+12.22	19 18 0.98	− 4.96	
	54		D.	12.46	15.00	17.00	19.16	21.47						
	55		E.	41.00	44.08	46.42	48.98	51.87						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $18^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Aug. 30	+ 0 10.91	lg 0.012	− 0.183	+ 0.500	0.00
Sept. 1	+ 0 11.60	lg 0.013	− 0.183	+ 0.500	0.00
3	+ 0 12.22	lg 0.015	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	15.70	19.50	24.31	29.00	33.00						
	2		B.	4.69	8.00	11.93	15.78	19.00						
Sept. 4	3	γ Draconis - - - -	C.	50.50	53.50	56.84	0.00	3.38	52 56.88	+ 0.42	+12.62	17 53 9.92	— 2.52	K.
	4		D.	35.00	38.59	42.09	45.31	49.15						
	5		E.	20.48	25.43	29.36	33.36	38.07						
	6		A.	33.34	36.10	39.10	42.21	45.09						
	7		B.	5.95	8.00	10.70	13.31	15.32						
	8	μ^1 Sagittarii - - - -	C.	36.38	38.40	40.66	42.80	45.11	4 40.57	— 0.39	+12.63	18 4 52.81	— 5.40	
	9		D.	6.15	8.71	10.90	13.18	15.77						
	10		E.	35.48	38.80	41.44	44.18	47.19						
	11		A.	26.65	29.36	32.43	35.78	38.35						
	12		B.	0.38	2.28	5.28	8.00	10.12						
	13	λ Sagittarii - - - -	C.	31.88	34.10	36.28	38.55	40.81	18 36.30	— 0.44	+12.63	18 18 48.49	— 5.64	
	14		D.	2.37	5.00	7.36	9.66	12.38						
	15		E.	34.09	37.39	40.10	42.78	46.10						
	16		C.	37.05	39.76	42.36	44.88	47.38						
	17	α Lyræ - - - - -	D.	12.40	15.58	18.35	20.80	23.80	32 18.80	—36.55 + 0.20	+12.63	18 31 55.08	— 3.56	
	18		E.	49.00	52.78	56.05	59.10	2.60						
	19		A.	24.88	27.78	30.98	34.00	36.90						
	20		B.	58.69	0.84	3.82	6.28	8.20						
	21	Moon's 1st Limb -	C.	30.21	32.36	34.60	36.80	39.24	45 34.69	— 0.38	+12.64	18 46 54.52	- - -	
	22		D.	0.85	3.56	5.69	8.05	10.78						
	23		E.	32.62	35.95	38.64	41.21	44.30						
	24		A.	27.20	29.80	32.88	35.95	38.85						
	25		B.	59.93	2.10	4.80	7.32	9.58						
	26	o Sagittarii - - - -	C.	30.74	32.73	34.90	37.08	39.29	55 34.96	— 0.40	+12.64	18 55 47.20	— 5.66	
	27		D.	0.28	3.00	5.10	7.58	10.00						
	28		E.	31.10	34.30	37.00	39.70	42.74						
	29		A.	36.40	38.98	42.00	45.16	47.82						
	30		B.	8.90	11.07	13.83	16.46	18.49						
	31	π Sagittarii - - -	C.	39.52	41.72	43.85	46.10	48.22	0 43.86	— 0.39	+12.64	19 0 56.11	— 5.65	
	32		D.	9.10	11.74	14.10	16.18	18.71						
	33		E.	39.75	43.05	45.68	48.26	51.42						
	34		B.	26.98	29.08	31.58	33.93	36.10						
	35	γ Aquilæ - - - -	C.	55.98	57.93	0.10	2.00	4.00	39 14.61	—14.62 — 0.11	+12.65	19 39 12.53	— 4.83	
	36		D.	23.93	26.46	28.38	30.65	33.00						
	37		E.	52.88	56.00	58.40	1.00	3.81						
	38		A.	16.60	19.10	22.08	25.00	27.26						
	39		B.	47.50	49.51	51.90	54.45	56.30						
	40	α Aquilæ - - - - -	C.	16.18	18.21	20.21	22.23	24.28	43 20.24	— 0.12	+12.65	19 43 32.77	— 4.94	
	41		D.	44.08	46.56	48.61	50.78	53.16						
	42		E.	12.93	15.79	18.42	20.98	23.78						
	43		A.	45.92	48.32	51.28	54.20	56.71						
	44		B.	16.50	18.58	20.98	23.38	25.40						
	45	β Aquilæ - - - - -	C.	45.20	47.29	49.19	51.21	53.13	47 49.17	— 0.15	+12.65	19 48 1.67	— 4.97	
	46		D.	12.92	15.23	17.42	19.48	21.93						
	47		E.	41.52	44.52	47.00	49.58	52.38						
	48		A.	23.95	26.82	29.86	33.11	35.80	7 46.04	+46.73 — 0.42	+13.69	18 8 46.04	— 5.44	
9	49	Dec. — 23° 38′ - -	B.	57.35	59.52	2.10	4.86	7.00						
	50		B.	26.81	29.05	31.65	34.32	36.35	8 31.64	+30.64 — 0.42	+13.69	18 9 15.55	— 5.44	
	51		B.	14.45	16.50	19.35	22.07	24.12	9 19.30	+30.64 — 0.42	+13.69	18 10 3.21	— 5.45	
	52	Dec. — 23° 38′ - -	B.	56.82	59.00	1.62	4.20	6.48	10 1.62	+30.64 — 0.42	+13.69	18 10 45.53	— 5.45	
	53		B.	25.70	27.70	30.35	33.05	35.23	10 30.41	+30.64 — 0.42	+13.69	18 11 14.32	— 5.45	
	54		D.	5.20	7.90	10.15	12.40	15.05	11 10.14	—30.60 — 0.42	+13.69	18 10 52.81	— 5.45	

21. Adopted Correction for Semidiameter = + 67ˢ.57.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 19ʰ. 0ᵐ.				
	m. s.	s.	s.	s.	s.
Sept. 4	+ 0 12.64	lg 0.015	— 0.183	+ 0.500	0.00
9	+ 0 13.70	lg 0.014	— 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
Sept. 9	1	Dec. — 23° 38′	A.	35.10	37.75	40.92	44.09	46.79	11 40.93	+62.83 − 0.42	+13.69	18 12 57.03	− 5.46	K.
	2		B.	9.30	11.40	14.20	16.95	18.86	12 14.14	+30.64 − 0.42	+13.69	18 12 58.05	− 5.46	
	3	Dec. — 23° 38′	B.	37.26	39.50	42.14	44.70	46.88	12 42.10	+30.64 − 0.42	+13.69	18 13 26.01	− 5.46	
	4		A.	7.32	10.23	13.64	17.21	20.27						
	5		B.	43.52	46.09	49.01	51.90	54.16						
	6	β Lyræ	C.	17.64	20.13	22.51	24.89	27.32	44 22.48	+ 0.13	+13.70	18 44 36.31	− 3.72	
	7		D.	50.68	53.53	56.00	58.50	1.35						
	8		E.	24.72	28.25	31.34	34.19	37.67						
	9		A.	44.33	46.77	49.61	52.63	55.10						
	10		B.	14.87	16.83	19.36	21.76	23.72						
	11	δ Aquilæ	C.	43.32	45.26	47.47	49.36	51.37	17 47.36	− 0.17	+13.70	19 18 0.89	− 4.89	
	12		D.	10.94	13.44	15.42	17.53	19.98						
	13		E.	39.50	42.53	44.97	47.45	50.37						
	14		A.	54.82	57.46	0.16	3.27	5.78						
	15		B.	25.76	27.85	30.22	32.74	34.75						
	16	γ Aquilæ	C.	54.58	56.78	58.86	0.92	2.93	38 58.77	− 0.11	+13.71	19 39 12.37	− 4.77	
	17		D.	22.68	25.16	27.25	29.41	31.79						
	18		E.	51.56	54.75	57.26	59.78	2.78						
	19		A.	15.44	17.90	20.80	23.82	26.38						
	20		B.	46.08	48.07	50.68	53.13	55.18						
	21	α Aquilæ	C.	15.00	17.00	19.00	21.00	23.16	43 19.04	− 0.12	+13.71	19 43 32.63	− 4.89	
	22		D.	42.88	45.36	47.40	49.52	51.95						
	23		E.	11.74	14.68	17.24	19.82	22.68						
	24		A.	44.66	47.18	50.00	53.00	55.52						
	25		B.	15.20	17.21	19.76	22.19	24.20						
	26	β Aquilæ	C.	43.86	45.94	47.91	49.90	51.98	47 47.92	− 0.15	+13.71	19 48 1.48	− 4.92	
	27		D.	11.68	14.14	16.12	18.28	20.55						
	28		E.	40.25	43.22	45.86	48.31	51.16						
	29		A.	19.48	21.84	24.78	27.75	30.32						
	30		B.	49.99	52.10	54.51	56.95	58.98						
12	31	26 Aquilæ (6614)	C.	18.54	20.68	22.59	24.79	26.82	12 22.69	− 0.25	+14.93	19 12 37.37	− 5.04	
	32		D.	46.42	48.96	50.94	53.00	55.36						
	33		E.	14.97	17.98	20.64	23.14	25.84						
	34		A.	43.18	45.40	48.39	51.37	53.87						
	35		B.	13.70	15.51	17.99	20.51	22.51						
	36	δ Aquilæ	C.	42.08	44.12	46.14	48.16	50.12	17 46.08	− 0.17	+14.93	19 18 0.84	− 4.84	
	37		D.	9.67	12.08	14.25	16.14	18.69						
	38		E.	38.15	41.25	43.62	46.21	49.06						
	39		A.	53.63	56.04	58.95	2.01	4.61						
	40		B.	24.63	26.54	29.00	31.52	33.44						
	41	ν Aquilæ	C.	53.29	55.51	57.49	59.52	1.62	38 57.50	− 0.11	+14.94	19 39 12.33	− 4.73	
	42		D.	21.44	24.00	25.95	28.10	30.41						
	43		E.	50.46	53.50	55.98	58.45	1.46						
	44		A.	14.16	16.60	19.42	22.58	25.11						
	45		B.	44.98	47.02	49.53	51.99	53.91						
	46	α Aquilæ	C.	13.77	15.77	17.88	19.87	21.79	43 17.80	− 0.12	+14.94	19 43 32.62	− 4.84	
	47		D.	41.62	44.15	46.14	48.22	50.58						
	48		E.	10.49	13.47	15.99	18.43	21.41						
	49		A.	43.47	45.89	48.80	51.78	54.32						
	50		B.	14.03	16.08	18.54	20.98	22.88						
	51	β Aquilæ	C.	42 64	44.71	46.74	48.68	50.83	47 46.72	− 0.15	+14.94	19 48 1.51	− 4.88	
	52		D.	10.48	12.94	14.89	16.98	19.46						
	53		E.	39.13	42.07	44.51	47.09	49.98						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 19h. 0m. m. s.	s.	s.	s.	s.
Sept. 9	+ 0 13.70	lg 0.014	− 0.183	+ 0.500	0.00
12	+ 0 14.93	lg 0.017	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	41.88	44.22	47.07	49.98	52.63						
	2		B.	12.32	14.28	16.78	19.36	21.16						
Sept. 15	3	δ Aquilæ	C.	40.70	42.76	44.69	47.08	49.18	17 44.90	− 0.17	+16.11	19 18 0.84	− 4.80	K.
	4		D.	8.48	11.11	13.38	15.25	17.58						
	5		E.	37.06	40.05	42.53	45.08	47.96						
	6		B.	40.15	42.45	45.10	47.63	49.82						
	7	α Vulpeculæ (6674)	C.	11.38	13.54	15.72	18.05	20.18	22 31.57	−15.79	+16.11	19 22 31.92	− 4.15	
	8		D.	41.52	44.32	46.46	48.68	51.65		+ 0.03				
	9		E.	12.98	16.30	19.08	21.48	24.88						
	10		A.	52.45	54.85	57.65	0.88	3.32						
	11		B.	23.28	25.22	27.68	30.32	32.43						
	12	γ Aquilæ	C.	52.38	54.42	56.46	58.45	0.52	38 56.34	− 0.11	+16.11	19 39 12.34	− 4.68	
	13		D.	20.35	22.71	24.68	27.13	29.38						
	14		E.	49.20	52.36	54.75	57.26	0.35						
	15		A.	13.00	15.49	18.32	21.28	23.92						
	16		B.	43.75	45.72	48.28	50.82	52.76						
	17	α Aquilæ	C.	12.22	14.51	16.68	18.40	20.70	43 16.57	− 0.12	+16.11	19 43 32.56	− 4.80	
	18		D.	40.40	42.92	45.00	47.08	49.48						
	19		E.	9.18	12.20	14.88	17.12	20.18						
	20		A.	42.22	44.52	47.40	50.35	53.12						
	21		B.	12.83	14.80	17.40	19.62	21.75						
	22	β Aquilæ	C.	41.47	43.35	45.37	47.66	49.62	47 45.45	− 0.15	+16.12	19 48 1.42	− 4.84	
	23		D.	9.15	11.79	13.56	15.64	18.07						
	24		E.	37.74	41.08	43.24	45.82	48.60						
	25		A.	51.89	54.36	57.32	0.44	2.83						
	26		B.	22.79	24.90	27.36	29.88	31.93						
16	27	γ Aquilæ	C.	51.84	53.73	55.79	57.93	59.90	38 55.84	− 0.11	+16.58	19 39 12.31	− 4.67	
	28		D.	19.75	22.36	24.35	26.45	28.93						
	29		E.	48.68	51.78	54.28	56.77	59.78						
	30		A.	12.42	14.92	17.91	20.75	23.25						
	31		B.	43.15	45.27	47.82	50.32	52.15						
	32	α Aquilæ	C.	12.00	13.98	16.24	18.15	20.10	43 16.10	− 0.12	+16.59	19 43 32.57	− 4.79	
	33		D.	39.87	42.54	44.49	46.65	48.99						
	34		E.	8.72	11.90	14.35	16.87	19.68						
	35		A.	41.85	44.26	46.96	49.95	52.58						
	36		B.	12.38	14.46	16.85	19.23	21.30						
	37	β Aquilæ	C.	41.11	43.09	45.14	47.00	49.08	47 45.00	− 0.15	+16.59	19 48 1.44	− 4.83	
	38		D.	8.68	11.11	13.11	15.33	17.44						
	39		E.	37.35	40.52	42.74	45.30	48.15						
	40		A.	28.15	30.78	33.60	36.72	39.25						
	41		B.	59.48	1.28	3.94	6.49	8.52						
	42	α^2 Capricorni	C.	28.58	30.44	32.90	34.74	37.06	9 32.75	− 0.31	+16.59	20 9 49.03	− 5.44	
	43		D.	56.76	59.56	1.40	3.73	6.21						
	44		E.	26.30	29.25	32.06	34.40	37.26						
	45		A.	38.16	41.20	45.65	49.90	53.24						
	46		B.	21.08	23.95	27.19	30.78	33.19						
	47	α Cygni	C.	1.19	4.08	6.88	9.70	12.33	36 6.75	+ 0.29	+16.60	20 36 23.64	− 4.25	
	48		D.	39.98	43.35	46.17	49.15	52.68						
	49		E.	20.08	24.11	28.00	31.35	35.25						
	50		A.	41.02	43.50	46.41	49.46	51.86						
	51		B.	11.63	13.60	15.80	18.40	20.37						
17	52	δ Aquilæ	C.	40.03	42.00	43.95	45.97	48.04	17 44.05	− 0.17	+16.82	19 18 0.70	− 4.77	
	53		D.	7.60	10.14	12.16	14.26	16.70						
	54		E.	36.17	39.17	41.66	44.30	46.97						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $20^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Sept. 15	+ 0 16.12	lg 0.019	− 0.183	+ 0.500	0.00
16	+ 0 16.59	lg 0.015	− 0.183	+ 0.500	0.00
17	+ 0 16.83	lg 0.012	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	12.30	14.60	17.59	20.54	23.20						
	2		B.	43.00	45.07	47.58	49.88	51.80						
Sept. 17	3	α Aquilæ	C.	11.67	13.76	15.87	17.80	20.00	43 15.80	− 0.12	+16.83	19 43 32.51	− 4.77	K.
	4		D.	39.48	42.07	44.17	46.19	48.75						
	5		E.	8.37	11.57	13.90	16.42	19.40						
	6		A.	41.50	43.86	46.68	49.78	52.25						
	7		B.	12.06	14.26	16.55	18.85	20.96						
	8	β Aquilæ	C.	40.72	42.90	44.80	46.78	48.83	47 44.74	− 0.15	+16.83	19 48 1.42	− 4.81	
	9		D.	8.38	10.97	13.00	14.97	17.39						
	10		E.	37.01	40.05	42.63	45.19	48.04						
	11		A.	27.83	30.45	33.41	36.49	38.86						
	12		B.	59.20	1.35	3.83	6.38	8.40						
	13	α^2 Capricornii	C.	28.32	30.40	32.50	34.58	36.75	9 32.56	− 0.31	+16.83	20 9 49.08	− 5.43	
	14		D.	56.80	59.58	1.30	3.43	5.93						
	15		E.	26.00	29.10	31.66	34.13	37.19						
	16		A.	50.51	52.73	55.84	58.64	1.21						
	17		B.	20.92	22.91	25.39	27.89	29.74						
	18	α Aquarii	C.	49.30	51.34	53.47	55.45	57.52	57 53.41	− 0.21	+16.85	21 58 10.05	− 5.44	
	19		D.	17.19	19.36	21.54	23.60	25.90						
	20		E.	45.51	48.40	50.88	53.51	56.36						
	21		C.	5.44	7.86	10.29	12.81	15.04						
	22	Piscis Australis (7714)	D.	38.57	41.53	44.13	46.48	49.30	1 44.49	−34.14 − 0.53	+16.85	22 1 26.67	− 6.21	
	23		E.	12.63	16.10	19.28	22.24	25.61						
	24		A.	25.82	28.64	31.95	35.47	38.45						
	25		B.	0.84	2.75	5.65	8.30	10.57						
	26	λ Piscis Australis	C.	32.80	35.31	37.59	39.81	41.98	5 37.55	− 0.47	+16.86	22 5 53.94	− 5.99	
	27		D.	4.60	7.40	9.54	11.96	14.59						
	28		E.	36.94	40.21	42.97	45.49	48.98						
	29		A.	37.72	40.31	43.60	47.26	50.10						
	30		B.	12.59	15.04	18.02	20.91	23.11						
	31	Piscis Australis (7909)	C.	45.55	48.19	50.36	52.60	54.99	33 50.35	− 0.49	+16.86	22 34 6.72	− 5.96	
	32		D.	17.71	20.53	22.68	25.21	28.03						
	33		E.	50.69	54.06	56.78	59.67	3.07						
	34		A.	57.51	0.50	3.78	6.94	10.10						
	35		B.	32.98	35.09	37.92	40.90	43.44						
	36	α Piscis Australis	C.	5.91	8.08	10.55	12.80	15.24	49 10.53	− 0.49	+16.87	22 49 26.91	− 5.97	
	37		D.	37.74	40.70	43.11	45.40	48.15						
	38		E.	10.79	14.40	17.57	20.01	23.64						
	39		A.	1.21	3.61	6.54	9.64	12.16						
	40		B.	32.74	34.79	37.34	39.86	41.85						
	41	α Pegasi	C.	2.16	4.13	6.10	8.30	10.41	57 6.19	− 0.07	+16.87	22 57 22.99	− 5.49	
	42		D.	30.47	33.12	35.21	37.30	39.73						
	43		E.	0.00	3.20	5.64	8.07	11.04						
	44		A.	0.00	2.31	5.24	8.20	10.71						
	45		B.	30.48	32.36	34.91	37.28	39.21						
	46	ι Piscium	C.	59.12	1.11	3.08	5.10	7.19	32 3.05	− 0.16	+16.87	23 32 19.76	− 5.58	
	47		D.	26.60	29.20	31.22	33.16	35.93						
	48		E.	55.41	58.18	0.76	3.22	6.33						
	49		A.	2.41	4.90	7.79	10.70	13.34						
	50	Iris	C.	2.41	4.82	6.72	8.85	10.83	58 13.83	− 7.17 − 0.09	+16.88	23 58 23.45	- - -	
	51		D.	30.74	33.13	35.41	37.50	39.79						
	52		E.	59.90	2.98	5.57	7.86	11.02						
	53		A.	58.69	1.21	4.21	7.26	9.85						
	54	Dec. + 12° 20′	B.	29.94	31.84	34.45	37.04	38.90	0 33.94	+29.22 − 0.09	+16.88	0 1 19.95	− 5.60	
	55		C.	58.98	1.19	3.14	5.13	7.27						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 20h. 0m. m. s.	s.	s.	s.	s.
Sept. 17	+ 0 16.83	lg 0.012	− 0.183	+ 0.500	0.00

54. Assumed to have been on September 17th.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		C.	11.81	14.01	16.00	18.06	20.24						
Sept. 17	2	Dec. + 11° 47′	D.	40.10	42.56	44.56	46.91	49.29	1 45.18	−29.16 − 0.09	+16.88	0 1 32.81	− 5.59	K.
	3		E.	9.24	12.35	14.96	17.25	20.41						
	4		A.	14.76	17.29	20.30	23.23	25.89						
	5		B.	46.34	48.30	50.80	53.23	55.30		+14.87				
	6	γ Pegasi	C.	15.60	17.65	19.70	21.70	23.95	5 4.88	− 0.07	+16.88	0 5 36.56	− 5.63	
	7		D.	44.19	46.67	48.65	50.80	53.26						
	8		A.	47.54	50.01	52.87	55.92	58.49						
	9		B.	18.72	20.80	23.14	25.46	27.59						
24	10	γ Aquilæ	C.	47.30	49.63	51.59	53.70	55.58	38 51.53	− 0.11	+20.73	19 39 12.15	− 4.54	
	11		D.	15.56	17.87	20.09	22.00	24.59						
	12		E.	44.33	47.49	50.02	52.49	55.47						
	13		A.	8.47	10.87	13.58	16.53	18.98						
	14		B.	39.11	41.09	43.41	45.81	47.96						
	15	α Aquilæ	C.	7.90	9.87	11.94	13.85	15.83	43 11.80	− 0.12	+20.73	19 43 32.41	− 4.66	
	16		D.	35.58	38.12	40.03	42.07	44.85						
	17		E.	4.46	7.46	9.68	11.88	15.53						
	18		A.	37.48	39.79	42.68	45.75	48.32						
	19		B.	7.95	10.00	12.70	15.16	16.97						
	20	β Aquilæ	C.	36.50	38.66	40.78	42.74	44.82	47 40.72	− 0.15	+20.73	19 48 1.30	− 4.70	
	21		D.	4.48	6.93	8.98	11.00	13.42						
	22		E.	32.95	36.08	38.66	41.03	44.07						
	23		A.	24.03	26.43	29.52	32.62	35.14						
	24		B.	55.28	57.48	59.86	2.44	4.43						
	25	α^2 Capricornii	C.	24.28	26.52	28.64	30.56	32.84	9 28.59	− 0.31	+20.73	20 9 49.01	− 5.33	
	26		D.	52.82	55.30	57.34	59.53	2.12						
	27		E.	21.98	24.98	27.55	30.00	33.12						
	28		A.	14.90	17.26	20.10	23.14	25.46						
	29		B.	45.20	47.06	49.70	52.03	54.03						
25	30	θ Aquilæ (6934)	C.	13.65	15.28	17.65	19.84	21.68	3 17.68	− 0.21	+21.18	20 3 38.65	− 4.95	
	31		D.	41.19	43.71	45.70	48.08	50.20						
	32		E.	9.96	12.55	15.28	17.65	20.67						
	33		A.	23.32	25.97	28.86	31.96	34.45						
	34		B.	54.70	56.80	59.20	1.72	3.80						
	35	α^2 Capricornii	C.	23.91	26.07	28.11	30.28	32.07	9 28.04	− 0.31	+21.18	20 9 48.91	− 5.31	
	36		D.	52.21	54.80	56.98	59.07	1.50						
	37		E.	21.38	24.48	27.15	29.53	32.69						
	38		A.	21.06	23.93	27.53	30.65	33.40						
	39		B.	56.59	59.01	1.89	4.74	6.98						
	40	Cygni (7029)	C.	30.30	32.66	34.95	37.30	39.45	17 34.91	+ 0.11	+21.19	20 17 56.21	− 4.22	
	41		D.	2.86	5.46	7.95	10.45	13.19						
	42		E.	36.13	39.39	42.75	45.54	48.70						
	43		A.	42.23	44.74	47.64	50.78	53.08						
	44		B.	13.30	15.41	17.82	20.39	22.40						
	45	ε Delphini (7088)	C.	42.41	44.36	46.32	48.49	50.60	25 46.36	− 0.10	+21.19	20 26 7.45	− 4.76	
	46		D.	10.45	13.03	14.90	16.83	19.33						
	47		E.	39.30	42.44	45.03	47.35	50.45						
	48		A.	30.12	32.39	35.51	38.55	40.90						
	49		B.	0.69	2.43	5.24	7.62	9.55						
	50	3 Aquarii	C.	29.45	31.26	33.35	35.19	37.50	39 33.35	− 0.25	+21.19	20 39 54.29	− 5.25	
	51		D.	57.05	59.58	1.50	3.76	6.04						
	52		E.	25.68	28.73	31.24	33.78	36.57						
	53		A.	17.84	20.41	23.28	26.59	29.14						
	54		B.	49.29	51.29	53.92	56.22	58.19						
Oct. 6	55	α^2 Capricornii	C.	18.47	20.59	22.62	24.50	26.83	9 22.63	− 0.31	+26.45	20 9 48.77	− 5.14	
	56		D.	46.95	49.45	51.48	53.69	56.20						
	57		E.	16.20	19.25	21.89	24.38	27.16						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 20h. 0m. m. s.	s.	s.	s.	s.
Sept. 17	+ 0 16.83	lg 0.012	− 0.183	+ 0.500	0.00
24	+ 0 20.73	lg 0.022	− 0.183	+ 0.500	0.00
25	+ 0 21.18	lg 0.018	− 0.183	+ 0.500	0.00
Oct. 6	+ 0 26.45	lg 0.023	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	24.11	26.51	29.52	32.43	35.06						
	2		B.	54.66	56.70	59.08	1.50	3.39						
Oct. 6	3	Aquilæ (7058)	C.	23.11	25.10	27.14	29.17	31.25	21 27.16	− 0.23	+26.46	20 21 53.39	− 4.95	K.
	4		D.	50.94	53.10	55.27	57.36	59.70						
	5		E.	19.22	22.37	24.78	27.36	30.10						
	6		A.	50.80	53.39	56.36	59.50	2.00						
	7		B.	22.29	24.28	26.81	29.41	31.38						
	8	ζ Delphini	C.	51.78	53.52	55.89	57.95	0.00	27 55.80	− 0.07	+26.46	20 28 22.19	− 4.54	
	9		D.	20.09	22.71	24.76	26.89	29.26						
	10		E.	49.50	52.60	55.31	57.82	0.73						
	11		A.	27.65	30.98	34.90	39.17	42.86						
	12		B.	10.68	13.32	16.72	20.23	22.99						
	13	α Cygni	C.	50.77	53.37	56.29	59.10	1.82	35 56.22	+ 0.29	+26.46	20 36 22.97	− 3.78	
	14		D.	29.43	32.95	35.60	38.82	42.00						
	15		E.	9.49	13.82	17.19	20.67	24.79						
	16		A.	23.94	26.48	29.20	32.21	34.93						
	17		B.	54.85	57.00	59.39	1.78	3.72						
	18	ε Pegasi	C.	23.70	25.78	27.72	29.73	31.83	36 27.72	− 0.12	+26.49	21 36 54.09	− 5.06	
	19		D.	51.55	54.08	56.11	58.29	0.91						
	20		E.	20.39	23.52	26.00	28.46	31.55						
	21		A.	0.52	2.96	5.75	8.68	11.22						
	22		B.	31.00	33.00	35.44	37.73	39.71						
	23	Aquarii (7660)	C.	59.25	1.38	3.40	5.38	7.48	53 3.37	− 0.20	+26.49	21 53 29.66	− 5.27	
	24		D.	26.96	29.26	31.35	33.60	35.91						
	25		E.	55.36	58.38	0.98	3.18	6.35						
	26		A.	40.90	43.12	46.00	48.96	51.31						
	27	α Aquarii	B.	11.10	13.20	15.59	18.09	20.00	57 15.11	+28.55 − 0.21	+26.50	21 58 9.95	− 5.30	
	28		C.	39.68	41.58	43.52	45.78	47.82						
	29		B.	21.68	24.18	27.18	30.03	32.27						
	30	15 Piscis Australis (7714)	C.	55.74	58.30	0.70	3.12	5.25	1 17.87	−17.21 − 0.53	+26.50	22 1 26.63	− 6.06	
	31		D.	28.94	31.83	34.25	36.79	39.67						
	32		E.	3.05	6.36	9.48	12.49	16.05						
	33	S Aquarii	E.	26.70	29.86	32.35	34.99	37.72	9 32.32	−58.25 − 0.27	+26.50	22 9 0.30	− 5.45	
	34		A.	29.32	31.83	34.73	37.84	40.22						
	35		B.	0.22	2.13	4.77	7.25	9.10						
	36	Neptune	C.	29.18	31.09	33.22	35.23	37.20	35 33.17	− 0.28	+26.51	22 35 59.40	...	
	37		D.	57.13	59.58	1.81	3.80	6.18						
	38		E.	25.99	28.95	31.47	33.99	36.99						
	39		A.	13.05	15.95	18.94	21.95	24.39						
	40		B.	44.55	46.71	49.12	51.73	53.88						
	41	τ^2 Aquarii	C.	14.04	16.08	18.12	20.15	22.39	41 18.20	− 0.33	+26.52	22 41 44.39	− 5.58	
	42		D.	42.50	45.18	47.21	49.29	51.80						
	43		E.	11.88	15.05	17.53	20.18	23.16						
	44		A.	48.13	50.64	53.80	56.51	59.40						
	45		B.	19.68	22.05	24.48	27.13	29.20						
	46	Moon 1st L.	C.	49.40	51.53	53.84	55.87	57.96	45 53.79	− 0.30	+26.52	22 47 22.07	...	
	47		D.	18.48	21.18	23.02	25.30	27.93						
	48		E.	48.12	51.23	53.88	56.47	59.44						
	49		A.	32.64	35.04	37.98	40.86	43.44						
	50		B.	3.06	5.07	7.43	9.85	11.82						
	51	Piscium (8012)	C.	31.47	33.48	35.58	37.58	39.50	52 35.51	− 0.20	+26.52	22 53 1.83	− 5.47	
	52		D.	59.06	1.53	3.51	5.65	8.08						
	53		E.	27.52	30.54	33.08	35.51	38.42						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $20^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Oct. 6	+ 0 26.45	lg 0.023	− 0.183	+ 0.500	0.00

46. Adopted Correction for semidiameter = + $62^{s.}$.06.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s	s.	s.	h. m. s.	s.	
	1		A.	51.27	54.07	57.08	0.03	2.61						
	2		B.	22.79	24.92	27.55	30.04	32.08						
Oct. 6	3	α Pegasi	C.	52.32	54.41	56.46	58.67	0.79	56 56.45	— 0.07	+26.52	22 57 22.90	— 5.44	K.
	4		D.	20.71	23.33	25.40	27.52	30.04						
	5		E.	50.12	53.28	55.86	58.48	1.38						
	6		A.	9.08	11.53	14.32	17.23	19.73						
	7		B.	39.62	41.78	44.35	46.72	48.68						
	8	φ Aquarii	C.	8.40	10.48	12.38	14.47	16.53	6 12.40	— 0.26	+26.53	23 6 38.67	— 5.55	
	9		D.	36.13	38.46	40.63	42.58	45.12						
	10		E.	4.78	7.93	10.43	12.88	15.70						
	11		A.	44.73	47.14	50.16	53.05	55.69						
	12		B.	15.65	17.68	20.28	22.85	24.80						
	13	ψ^3 Aquarii	C.	44.76	46.68	48.79	50.62	52.88	10 48.75	— 0.29	+26.53	23 11 14.99	— 5.57	
	14		D.	12.69	15.25	17.34	19.32	21.77						
	15		E.	41.75	44.98	47.21	49.82	52.78						
	16		A.	50.41	52.67	55.62	58.46	1.09						
	17		B.	20.91	23.02	25.46	27.92	29.71						
	18	*i* Piscium	C.	49.48	51.42	53.52	55.42	57.52	31 53.45	— 0.16	+26.54	23 32 19.83	— 5.61	
	19		D.	17.00	19.42	21.68	23.68	26.08						
	20		E.	45.52	48.68	51.18	53.68	56.60						
	21		A.	19.96	22.40	25.12	28.22	30.72						
	22		B.	50.38	52.45	54.98	57.44	59.28						
	23	Piscium (8262)	C.	18.91	21.00	23.00	25.00	26.89	38 22.93	— 0.18	+26.54	23 38 49.29	— 5.58	
	24		D.	46.49	48.81	51.00	53.08	55.50						
	25		E.	15.08	18.08	20.64	22.98	25.89						
	26		A.	11.84	14.48	17.13	20.26	22.90						
	27		B.	42.80	44.92	47.30	49.85	51.78						
	28	Iris	C.	11.60	13.53	15.75	17.72	19.85	43 15.77	— 0.11	+26.54	23 43 42.20	- - -	
	29		D.	39.76	42.20	44.22	46.44	48.93						
	30		E.	8.58	11.75	14.23	16.85	19.70						
	31		A.	57.45	0.22	3.53	6.91	9.90						
	32		B.	32.70	34.93	37.82	40.52	42.80						
8	33	ζ Cygni	C.	5.38	7.64	10.00	12.14	14.51	6 9.95	+ 0.08	+27.59	21 6 37.62	— 4.46	
	34		D.	37.00	39.99	42.28	44.76	47.41						
	35		E.	9.95	13.45	16.21	19.08	22.21						
	36		B.	53.64	55.76	58.29	0.63	2.57						
	37		C.	22.52	24.68	26.64	28.56	30.68		—14.58				
	38	ε Pegasi	D.	50.44	52.99	54.99	57.19	59.43	36 41.17	— 0.12	+27.60	21 36 54.07	— 5.04	
	39		E.	19.35	22.33	24.89	27.38	30.36						
	40		A.	9.12	11.65	14.60	17.68	20.28						
	41		B.	40.67	42.82	45.28	47.85	49.91						
	42	Pegasi (7742)	C.	10.14	12.14	14.38	16.40	18.45	4 14.34	— 0.06	+27.61	22 4 41.89	— 5.12	
	43		D.	38.80	41.33	43.43	45.60	48.18						
	44		E.	8.23	11.39	13.98	16.58	19.68						
	45		A.	51.15	53.55	56.48	59.65	2.00						
	46		B.	21.80	23.88	26.38	28.76	30.69						
	47	Aquarii (7776)	C.	50.52	52.60	54.63	56.56	58.50	8 54.53	— 0.25	+27.61	22 9 21.89	— 5.38	
	48		D.	18.39	20.69	22.73	24.80	27.18						
	49		E.	46.89	50.11	52.49	54.98	57.83						
	50		A.	41.69	44.12	46.87	50.11	52.68						
	51		B.	12.93	14.68	17.24	19.81	21.90						
	52	Pegasi (7796)	C.	41.72	43.68	45.84	47.93	49.92	13 45.78	— 0.10	+27.62	22 14 13.30	— 5.21	
	53		D.	8.89	12.32	14.41	16.59	18.99						
	54		E.	38.89	42.00	44.38	46.92	49.96						

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $22^{h.}\ 0^{m.}$				
	m. s.	s.	s.	s.	s.
Oct. 6	+ 0 26.50	lg 0.023	—0.183	+ 0.500	0.00
8	+ 0 27.61	lg 0.025	—0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	19.00	21.20	24.13	27.23	29.79						
	2		B.	49.71	51.83	54.35	56.87	58.90						
Oct. 8	3	Neptune	C.	18.70	20.65	22.80	24.78	26.98	35 22.77	− 0.28	+27.62	22 35 50.11	- - -	K.
	4		D.	46.63	49.38	51.25	53.43	55.95						
	5		E.	15.59	18.75	21.09	23.72	26.62						
	6		A.	15.10	17.55	20.71	24.00	26.78						
	7		B.	48.40	50.45	53.10	55.70	57.98						
	8	μ Pegasi	C.	19.42	21.51	23.81	25.93	28.10	42 23.76	+ 0.02	+27.63	22 42 51.41	− 5.33	
	9		D.	49.68	52.19	54.49	56.67	59.35						
	10		E.	20.59	23 99	26.61	29.36	32.50						
	11		A.	46.80	49.59	53.00	56.39	59.40						
	12		B.	22.00	24.41	27.25	30.11	32.30						
	13	α Piscis Australis	C.	55.18	57.40	59.90	1.89	4.34	48 59.75	− 0.49	+27.63	22 49 26.89	− 5.89	
	14		D.	27.13	29.93	32.13	34.80	37.47						
	15		E.	0.24	3.68	6.51	9.35	12.66						
	16		A.	50.48	52.99	55.80	58.91	1.42						
	17		B.	21.81	23.91	26.40	29.00	30.97						
	18	α Pegasi	C.	51.29	53.22	55.38	57.43	59.56	56 55.36	− 0.07	+27.63	22 57 22.92	− 5.43	
	19		D.	19.75	22.35	24.24	26.54	28.97						
	20		E.	49.00	52.21	54.70	57.32	0.40						
	21		A.	28.20	30.60	33.32	36.42	38.82						
	22		B.	58.53	0.63	2.99	5.39	7.30						
10	23	Aquilæ (7109)	C.	27.00	29.05	31.09	33.04	35.16	28 31.05	− 0.23	+28.80	20 28 59.62	− 4.88	
	24		D.	54.59	56.86	59.04	1.22	3.67						
	25		E.	23.23	26.29	28.71	31.10	34.03						
	26		A.	25.00	28.58	32.56	36.71	40.28						
	27		B.	8.09	10.70	14.00	17.59	20.38						
	28	α Cygni	C.	48.11	50.98	53.70	56.55	59.50	35 53.68	+ 0.29	+28.80	20 36 22.77	− 3.68	
	29		D.	27.00	30.29	33.21	36.08	39.61						
	30		E.	7.04	11.19	14.61	18.05	22.22						
	31		A.	8.50	11.00	14.00	17.09	19.65						
	32		B.	39.60	41.59	44.18	46.55	48.60						
	33	Neptuue	C.	8.53	10.58	12.88	14.66	16.69	35 12.58	− 0.28	+28.86	22 35 41.16	- - -	
	34		D.	36.39	38.91	41.19	43.43	45.75						
	35		E.	5.43	8.49	11.05	13.43	16.47						
	36		A.	45.52	48.35	51.59	55.09	57.85						
	37		B.	21.00	23.30	25.97	28.92	31.16						
	38	α Piscis Australis	C.	53.90	56.10	58.55	0.85	3.23	48 58.51	− 0.49	+28.86	22 49 26.88	− 5.87	
	39		D.	25.68	28.68	31.00	33.50	36.45						
	40		E.	58.87	2.33	5.24	8.14	11.59						
	41		A.	49.13	51.51	54.53	57.69	0.27						
	42		B.	20.63	22.59	25.10	27.71	29.63						
	43	α Pegasi	C.	49.95	52.00	54.15	56.10	58.20	56 54.08	− 0.07	+28.86	22 57 22.87	− 5.41	
	44		D.	18.47	21.01	23.13	25.20	27.70						
	45		E.	47.90	51.00	53.46	56.00	59.00						
	46		A.	30.24	32.89	35.75	38.60	41.45						
	47		B.	1.24	3.23	5.68	8.17	10.03						
	48	Pegasi (8070)	C.	30.00	32.02	34.01	35.89	37.94	1 33.95	− 0.13	+28.87	23 2 2.69	− 5.42	
	49		D.	57.78	0.25	2.24	4.46	6.90						
	50		E.	26.45	29.55	31.90	34.60	37.54						
	51		A.	37.62	39.89	42.96	46.00	48.74						
	52		B.	8.40	10.35	12.83	15.40	17.43						
	53	χ Aquarii	C.	37.23	39.18	41.22	43.13	45.20	8 41.25	− 0.27	+28.87	23 9 9.85	− 5.52	
	54		D.	5.13	7.61	9.72	11.89	14.10						
	55		E.	33.92	36.90	39.50	41.90	44.91						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 22h. 0m.				
	m. s.	s.	s.	s.	s.
Oct. 8	+ 0 27.61	lg 0.025	− 0.183	+ 0.500	0.00
10	+ 0 28.84	lg 0.026	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	42.21	44.93	47.93	51.17	53.83						
	2		B.	14.86	16.90	19.57	22.07	24.12						
Oct. 10	3	Pegasi (8146)	C.	45.00	17.19	49.20	51.43	53.60	14 49.32	− 0.02	+28.87	23 15 18.17	− 5.50	K.
	4		D.	14.58	17.07	19.07	21.43	23.99						
	5		E.	44.70	48.00	50.53	53.23	56.33						
	6		A.	7.78	9.96	12.79	15.86	18.38						
	7		B.	38.25	40.11	42.70	45.00	46.87						
	8	9 Piscium	C.	6.65	8.65	10.52	12.53	14.66	19 10.57	− 0.20	+28.87	23 19 39.24	− 5.50	
	9		D.	34.13	36.50	38.83	40.66	43.07						
	10		E.	2.58	5.63	8.18	10.60	13.40						
	11		A.	26.00	28.72	31.80	35.06	37.60						
	12		B.	58.97	1.12	3.58	6.30	8.30						
	13	Aquarii (8196)	C.	29.65	31.76	33.99	35.97	38.36	23 33.95	− 0.40	+28.88	23 24 2.43	− 5.64	
	14		D.	59.30	2.13	4.29	6.48	9.38						
	15		E.	30.28	33.24	35.96	38.60	41.80						
	16		A.	47.83	50.29	53.03	55.97	58.63						
	17		B.	18.33	20.50	22.90	25.23	27.30						
	18	ι Piscium	C.	47.10	49.05	51.07	52.96	55.10	31 51.01	− 0.16	+28.88	23 32 19.73	− 5.60	
	19		D.	14.68	17.16	19.27	21.41	23.73						
	20		E.	43.25	46.28	48.82	51.19	54.20						
	21		A.	32.14	34.58	37.57	40.35	43.00						
	22		B.	3.11	4.93	7.45	10.03	11.98						
	23	Iris	C.	31.63	33.93	36.00	37.86	40.14	40 35.89	− 0.11	+28.88	23 41 4.66	. . .	
	24		D.	59.91	2.20	4.47	6.45	8.93						
	25		E.	28.63	31.68	34.16	36.60	39.60						
	26		A.	39.31	41.84	44.57	47.60	50.20						
	27		B.	9.98	11.93	14.39	16.90	18.86						
16	28	Equnulei (7255)	C.	38.43	40.42	42.51	44.54	46.49	47 42.44	− 0.16	+32.35	20 48 14.63	− 4.76	
	29		D.	6.00	8.49	10.55	12.65	15.00						
	30		E.	34.74	37.70	40.05	42.53	45.43						
	31		A.	29.90	32.34	35.39	38.16	40.68						
	32		B.	0.54	2.65	4.98	7.44	9.39						
	33	Equnulei (7324)	C.	29.00	31.02	33.00	34.97	37.14	57 33.10	− 0.15	+32.36	20 58 5.31	− 4.74	
	34		D.	56.74	59.10	1.19	3.65	5.60						
	35		E.	25.38	28.57	30.94	33.44	36.39						
	36		A.	52.55	55.51	58.73	2.13	5.09						
	37		B.	27.89	29.98	32.65	35.66	37.84						
	38	ζ Cygni	C.	0.47	2.65	5.20	7.36	9.68	6 5.06	+ 0.08	+32.36	21 6 37.50	− 4.32	
	39		D.	32.50	35.00	37.40	39.77	42.47						
	40		E.	4.98	8.45	11.15	13.91	17.39						
	41		A.	16.49	21.46	27.35	33.96	39.32						
	42		B.	21.00	25.17	29.74	35.59	39.40						
	43	α Cephei	C.	21.65	25.94	29.82	34.27	38.63	14 30.02	+ 0.73	+32.36	21 15 3.11	− 3.45	
	44		D.	20.21	25.32	29.64	34.39	39.35						
	45		E.	20.31	27.26	32.41	37.93	43.90						
	46		A.	26.76	29.73	33.16	36.96	39.77						
	47		B.	3.78	6.23	9.24	12.03	14.70						
	48	Piscis Australis (7475)	C.	38.35	40.81	43.23	45.60	47.90	22 43.21	− 0.55	+32.37	21 23 15.03	− 5.87	
	49		D.	11.85	14.82	17.19	19.85	22.97						
	50		E.	46.54	50.00	53.20	55.94	59.56						
	51		A.	17.94	20.48	23.21	26.14	28.74						
	52		B.	48.79	50.91	53.18	55.70	57.79		+14.59				
	53	ε Pegasi	C.	17.79	19.73	21.81	23.74	25.70	36 7.12	− 0.12	+32.37	21 36 53.96	− 4.94	
	54		D.	45.67	48.09	50.02	52.29	54.70						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 22h. 0m.				
	m. s.	s.	s.	s.	s.
Oct. 10	+ 0 28.84	lg 0.026	− 0.183	+ 0.500	0.00
16	+ 0 32.38	lg 0.024	− 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	34.77	36.98	39.95	42.95	45.47						
	2		B.	5.15	7.16	9.59	12.00	14.00						
Oct. 16	3	α Aquarii - - - -	C.	33.63	35.59	37.78	39.73	41.57	57 37.63	— 0.21	+32.38	21 58 9.80	— 5.18	K.
	4		D.	1.16	3.74	5.74	7.79	10.19						
	5		E.	29.70	32.80	35.17	37.65	40.56						
	6		A.	4.27	6.77	9.70	12.68	15.48						
	7		B.	35.68	37.81	40.50	42.84	44.75						
	8	Pegasi (7742) - - -	C.	5.28	7.26	9.27	11.41	13.56	4 9.43	— 0.06	+32.38	22 4 41.75	— 5.03	
	9		D.	33.88	36.46	38.59	40.86	43.25						
	10		E.	3.50	6.41	9.02	11.70	14.73						
	11		A.	47.85	50.19	52.98	56.00	58.51						
	12		B.	18.71	20.34	23.09	25.46	27.50						
	13	3 Aquarii - - - - ..	C.	47.31	49.53	51.40	53.17	55.42	11 51.37	— 0.27	+32.38	22 12 23.48	— 5.34	
	14		D.	15.45	17.73	19.79	22.00	24.40						
	15		E.	44.05	46.94	49.51	52.00	54.95						
	16		A.	40.65	43.31	45.98	48.95	51.44						
	17		B.	11.57	13.84	16.20	18.61	20.54						
	18	Neptune - - -	C.	40.69	42.64	44.50	46.60	48.87	34 44.60	— 0.29	+32.39	22 35 16.70	- - -	
	19		D.	8.61	11.00	13.04	15.29	17.54						
	20		E.	37.54	40.51	43.03	45.48	48.48						
	21		A.	7.14	9.47	12.69	15.60	18.30						
	22		B.	38.59	40.83	43.14	45.62	47.72						
	23	τ^2 Aquarii (7954) - -	C.	8.00	10.00	12.02	14.10	16.11	41 12.07	— 0.33	+32.40	22 41 44.14	— 5.49	
	24		D.	36.56	38.93	40.79	43.37	45.73						
	25		E.	5.82	8.96	11.40	14.02	17.07						
	26		A.	44.51	46.84	49.57	52.59	55.19						
	27		B.	14.90	16.93	19.39	21.71	23.73						
	28	ι Piscium - - - -	C.	43.24	45.41	47.45	49.41	51.49	31 47.48	— 0.16	+32.42	23 32 19.74	— 5.58	
	29		D.	11.10	13.74	15.69	17.75	20.14						
	30		E.	39.90	42.81	45.09	47.70	50.70						
	31		A.	18.30	20.70	23.40	26.59	29.25						
	32		B.	49.24	51.08	53.69	56.10	57.98						
	33	Iris - - - - - -	C.	17.97	19.95	21.88	23.99	26.16	37 21.98	— 0.12	+32.42	23 37 54.28	- - -	
	34		D.	45.98	48.50	50.26	52.51	54.97						
	35		E.	14.61	17.87	20.31	22.73	25.51						
	36		A.	20.09	22.89	26.69	29.74	33.34						
	37		B.	57.02	0.21	2.98	5.80	8.45						
27	38	Dec. — 34° 36′ - -	C.	32.02	34.31	36.84	39.76	42.00	22 36.80	— 0.55	+38.55	21 23 14.80	— 5.67	L.*
	39		D.	5.16	8.61	10.87	13.31	16.00						
	40		E.	40.16	43.93	46.41	49.84	53.48						
	41		A.	43.28	45.30	47.86	50.85	53.30						
	42		B.	12.96	15.10	17.62	19.90	21.95						
	43	Aquarii (7863) - -	C.	41.50	43.50	45.60	47.48	49.79	25 45.61	— 0.22	+38.57	22 26 23.96	— 5.19	
	44		D.	9.02	11.56	13.82	15.74	18.22						
	45		E.	37.37	40.80	43.20	45.74	48.70						
	46		A.	32.49	34.78	37.30	40.94	43.40						
	47		B.	3.32	5.88	8.07	10.08	12.45						
	48	ψ^3 Aquarii - - - -	C.	32.28	34.18	36.45	38.29	40.16	10 36.35	— 0.29	+38.58	23 11 14.64	— 5.41	
	49		D.	59.79	3.00	5.00	7.03	9.22						
	50		E.	29.50	32.72	34.86	37.27	40.32						
	51		A.	24.27	26.63	29.67	33.02	35.72						
	52		B.	56.11	58.40	1.05	3.60	5.65						
	53	β Ceti - - - - - -	C.	26.45	28.66	30.60	32.90	35.11	35 30.63	— 0.37	+38.61	0 36 8.87	— 5.58	
	54		D.	55.57	58.03	0.30	2.53	5.06						
	55		E.	25.04	28.63	31.75	34.23	36.92						
	56	Polaris - - - - -	C.	42.62	6.83	18.75	39.49	59.03	5 21.34	+ 0.89 +18.54	+38.62	1 6 19.39	—80.47	

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 22h. 0m.				
	m. s.	s.	s.	s.	s.
Oct. 16	+ 0 32.38	lg 0.024	— 0.183	+ 0.500	0.00
27	+ 0 38.56	lg 0.019	— 0.183	+ 0.500	0.00

* L. indicates Mr. J. M. Locke.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	55.34	57.60	0.65	3.66	6.08						
	2		B.	26.12	28.16	30.50	32.97	34.90						
Oct. 27	3	θ Ceti	C.	54.78	56.78	58.83	1.08	2.93	15 58.91	— 0.28	+38.62	1 16 37.25	— 5.64	L.
	4		D.	22.83	25.22	27.40	29.44	31.87						
	5		E.	51.46	54.60	57.15	59.62	2.80						
	6		B.	12.20	16.64	21.88	26.76	30.90						
31	7	α Cephei	C.	12.90	17.06	21.21	25.34	30.08	14 52.02	—30.61	+40.22	21 15 2.36	— 2.82	
	8		D.	11.25	16.15	21.20	25.66	31.34		+ 0.73				
	9		E.	12.52	18.68	23.90	29.22	35.59						
	10		A.	26.68	29.18	31.99	34.82	36.79						
	11		B.	57.23	59.06	1.45	3.95	5.91						
	12	α Aquarii	C.	25.51	27.72	29.41	31.48	33.51	57 29.55	— 0.21	+40.24	21 58 9.58	— 4.99	
	13		D.	53.15	55.60	57.56	59.64	2.19						
	14		E.	21.83	24.71	27.33	29.68	32.45						
	15		A.	37.28	39.62	43.08	45.98	48.95						
	16		B.	10.05	12.12	14.86	17.51	19.63						
	17	Aquarii (7790)	C.	41.00	43.11	45.24	47.34	49.75	12 45.23	— 0.40	+40.25	22 13 25.08	— 5.40	
	18		D.	11.05	13.19	15.91	17.92	20.49						
	19		E.	41.61	44.16	47.43	50.10	53.43						
	20		A.	0.78	3.73	6.06	8.39	11.60						
	21		B.	31.14	33.66	35.60	37.78	40.14						
Nov. 1	22	β Aquarii	C.	59.85	1.96	3.90	5.96	8.00	23 3.89	— 0.25	+40.84	21 23 44.48	— 4.90	
	23		D.	27.83	29.59	31.90	34.50	36.56						
	24		E.	56.20	58.56	1.62	4.89	6.99						
	25		A.	9.40	12.10	14.75	17.30	20.10						
	26		B.	39.96	42.53	44.59	46.75	48.96						
	27	ε Pegasi	C.	9.03	10.97	13.00	15.02	16.92	36 13.00	— 0.12	+40.85	21 36 53.73	— 4.71	
	28		D.	36.83	39.00	41.42	43.90	45.95						
	29		E.	5.84	8.13	11.42	14.44	16.66						
	30		B.	13.43	54.10	9.73	33.24	5.78	56 15.33	+54.38	+42.63	1 6 20.38	—78.24	
4	31	Polaris	C.	46.83	2.98	18.96	34.22	54.00		+18.55				
	32		C.	50.80	52.86	54.68	56.73	58.86						
	33	θ Ceti	D.	18.76	20.74	23.29	25.76	27.67	16 23.72	—28.89	+42.64	1 16 37.19	— 5.64	
	34		E.	47.62	50.40	53.08	56.10	58.39		— 0.28				
	35		A.	16.26	19.33	21.69	24.15	27.30						
	36		B.	47.14	49.56	51.73	53.84	56.09						
6	37	ζ Pegasi	C.	15.85	18.00	20.09	22.40	24.16	33 20.17	— 0.11	+43.92	22 34 3.98	— 5.01	
	38		D.	44.10	46.26	48.63	51.11	53.22						
	39		E.	13.03	15.72	18.75	21.70	24.23						
	40		B.	54.00	15.00	45.00	19.00	34.00						
	41	Polaris S. P.	C.	16.00	34.00	56.00	6.00	23.00	5 51.47	+ 0.71	+44.15	13 6 17.41	—77.54	
	42		D.	4.00	38.00	59.00	18.00	51.00		—18.92				
	43		A.	33.19	36.41	38.94	41.51	44.95						
	44		B.	4.55	6.81	8.89	11.08	13.51						
	45	α Virginis	C.	33.44	35.39	37.41	39.51	41.35	16 37.48	— 0.29	+44.15	13 17 21.34	— 3.58	
	46		D.	1.58	3.58	5.98	8.08	10.56						
	47		E.	30.68	33.11	35.99	38.79	41.59						
	48		A.	44.72	47.79	50.40	53.10	56.32						
	49		B.	16.70	19.19	21.61	23.85	26.27						
	50	η Bootis	C.	47.18	49.12	51.12	53.18	55.71	46 51.32	— 0.03	+44.16	13 47 35.45	— 2.93	
	51		D.	16.21	18.20	21.21	23.70	25.81						
	52		E.	46.55	49.21	52.53	55.35	57.86						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $22^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Oct. 31	+ 0 40.24	lg 0.024	— 0.183	+ 0.500	0.00
Nov. 1	+ 0 40.86	lg 0.026	— 0.183	+ 0.500	0.00
4	+ 0 42.57	lg 0.025	— 0.183	+ 0.500	0.00
6	+ 0 43.92	lg 0.019	— 0.183	+ 0.500	0.00

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	0.53	3.74	6.40	8.96	12.13						
	2		B.	32.78	35.28	37.68	39.99	42.53						
Nov. 6	3	α Bootis	C.	3.25	5.48	7.61	9.41	12.05	8 7.53	− 0.02	+44.16	14 8 51.67	− 2.66	L.
	4		D.	32.44	35.04	37.36	39.79	42.09						
	5		E.	3.00	5.72	8.95	11.99	14.21						
	6		A.	5.82	8.68	11.32	13.49	16.57						
	7		B.	36.53	38.99	41.18	43.25	45.40						
7	8	ε Pegasi	C.	5.59	7.47	9.55	11.69	13.83	36 9.58	− 0.04	+44.23	21 36 53.77	− 4.62	
	9		D.	33.47	35.58	37.83	40.41	42.67						
	10		E.	2.58	4.92	8.15	11.06	13.32						
	11		A.	25.12	28.09	30.88	33.49	36.56						
	12		B.	58.74	1.23	3.29	5.52	8.16						
	13	Pegasi (7627)	C.	29.90	32.15	34.35	36.72	38.96	45 34.43	+ 0.06	+44.23	21 46 18.72	− 4.39	
	14		D.	0.69	2.55	5.20	8.13	10.41						
	15		E.	32.19	34.94	38.23	41.10	43.97						
	16		A.	37.46	40.67	43.40	46.04	49.34						
	17		B.	11.30	14.10	16.41	18.84	21.44						
	18	Pegasi (8097)	C.	43.37	45.92	48.15	50.32	52.30	7 48.07	+ 0.08	+44.24	23 8 32.39	− 5.19	
	19		D.	14.61	16.86	19.53	22.29	24.79						
	20		E.	46.79	49.27	53.10	56.39	58.98						
	21		A.	47.58	50.75	53.19	55.44	58.78						
	22		B.	18.83	21.17	23.32	25.23	27.63						
	23	Pegasi (8149)	C.	47.61	49.83	52.06	54.14	56.00	14 51.90	− 0.03	+44.24	23 15 36.11	− 5.25	
	24		D.	16.16	18.13	20.52	22.96	25.00						
	25		E.	45.22	47.70	50.58	53.36	56.20						
	26		B.	37.15	39.57	41.75	43.86	46.25						
	27	Piscium (8215)	C.	5.66	7.86	9.66	11.50	13.46	27 24.08	−14.39	+44.24	23 27 53.83	− 5.32	
	28		D.	33.36	35.27	37.76	40.14	42.22		− 0.10				
	29		E.	1.82	4.45	7.32	10.10	12.40						
	30		A.	48.24	51.48	54.50	57.02	0.70						
	31		B.	22.90	25.75	28.27	30.49	33.35						
	32	α Andromadæ	C.	55.16	57.74	59.80	2.03	4.20	59 59.90	+ 0.09	+44.25	0 0 44.24	− 5.75	
	33		D.	27.66	29.14	31.83	34.50	37.04						
	34		E.	59.12	1.98	5.05	8.53	11.04						
	35		A.	47.54	50.60	53.07	55.47	58.70						
	36		B.	18.76	21.20	23.12	25.45	28.10						
	37	γ Pegasi	C.	48.15	50.36	52.12	54.32	56.35	4 52.35	− 0.01	+44.25	0 5 36.59	− 5.61	
	38		D.	16.85	18.83	21.23	23.67	25.83						
	39		E.	46.32	48.85	51.70	54.97	57.13						
	40		A.	31.00	23.00	3.00	38.00	34.00						
	41		B.	24.00	51.00	11.00	30.00	4.00						
	42	Polaris	C.	43.00	4.00	19.00	38.00	0.00	5 21.40	+13.40	+44.26	1 6 19.06	−77.43	
	43		D.	34.00	0.00	33.00	7.00	25.00						
	44		E.	8.00	44.00	41.00	32.00	18.00						
	45		A.	18.38	21.30	24.19	26.53	30.01						
	46		B.	50.59	52.90	55.13	57.54	59.86						
	47	β Ceti	C.	20.34	22.82	24.80	26.89	29.00	35 24.82	− 0.22	+44.26	0 36 8.86	− 5.54	
	48		D.	49.96	51.84	54.30	57.05	59.19						
	49		E.	20.01	22.52	25.59	28.81	31.03						
	50		A.	5.80	8.77	11.47	13.90	17.04						
	51		B.	37.25	39.53	41.86	43.75	46.16						
	52	Moon, 1st L.	C.	6.32	8.70	10.77	12.55	14.56	20 10.66	− 0.05	+44.28	2 21 57.45	. . .	
	53		D.	35.16	37.00	39.30	41.93	44.36						
	54		E.	4.40	7.13	10.07	12.95	15.78						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 22h. 0m. m. s.	s.	s.	s.	s.
Nov. 6	+ 0 43.92	lg 0.019	− 0.183	+ 0.500	0.00
7	+ 0 44.23	lg 0.011	− 0.108	+ 0.353	− 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	41.73	44.58	46.66	48.97	51.65						
	2		C.	11.67	13.70	15.96	18.33	20.14		−14.88				
Nov. 7	3	Moon, 2d L.	D.	40.33	42.33	44.70	47.26	49.09	22 30.67	− 0.05	+44.28	2 21 57.45	. . .	L.
	4		E.	9.73	12.44	15.46	18.10	20.63						
10	5	Polaris S. P.	C.	15.00	30.00	54.00	8.00	26.00	5 50.60	+ 0.89 +13.41	+45.84	13 6 50.74	. . .	
	6		A.	59.15	2.33	4.89	7.40	10.80						
	7		B.	31.42	34.19	36.33	38.51	41.13						
	8	α Bootis	C.	1.98	4.00	6.19	8.31	10.55	8 6.12	+ 0.03	+45.83	14 8 51.98	− 2.71	
	9		D.	31.16	33.16	35.90	38.50	40.81						
	10		E.	1.52	4.20	7.21	10.31	13.10						
	11		A.	31.62	34.75	37.62	40.44	43.96						
	12		B.	5.88	8.66	10.99	12.99	15.92						
	13	ε Bootis	C.	38.00	40.23	42.61	44.96	47.18	37 42.55	+ 0.08	+45.83	14 38 28.46	− 2.42	
	14		D.	9.23	11.41	14.02	16.97	19.00						
	15		E.	41.19	44.28	47.53	50.68	53.58						
	16		A.	15.22	18.28	20.61	23.14	26.52						
	17		B.	46.20	48.38	50.31	52.69	54.77						
11	18	Aquarii (7884)	C.	14.55	16.30	18.41	20.72	22.51	29 18.58	− 0.13	+45.81	22 30 4.26	− 5.03	
	19		D.	42.48	44.26	46.74	49.08	51.12						
	20		E.	11.04	13.73	16.50	19.33	21.60						
	21		A.	25.28	28.33	31.00	33.76	35.89						
	22		B.	56.00	58.15	0.49	2.79	4.96						
	23	Neptune	C.	24.80	27.04	29.20	31.03	33.12	33 29.02	− 0.16	+45.81	22 34 14.67	. . .	
	24		D.	53.02	54.70	57.46	0.12	2.18						
	25		E.	21.88	24.41	27.00	30.09	32.80						
	26		A.	3.38	6.65	9.15	11.61	14.83						
	27		B.	34.42	36.91	38.99	41.09	43.59						
	28	σ Pegasi (7971)	C.	3.22	5.39	7.17	9.45	11.35	44 7.41	− 0.05	+45.81	22 44 53.17	− 5.08	
	29		D.	31.70	33.45	35.94	38.29	40.24						
	30		E.	0.10	2.83	5.72	8.66	11.18						
	31		A.	27.98	31.49	34.29	37.23	40.78						
	32		B.	3.10	6.05	8.40	10.96	13.90						
	33	α Piscis Australis	C.	36.36	39.08	41.11	43.10	45.79	48 41.00	− 0.31	+45.81	22 49 26.50	− 5.47	
	34		D.	8.22	10.69	13.45	16.22	18.62						
	35		E.	41.30	44.35	47.52	51.00	54.08						
	36		A.	31.74	34.81	37.39	39.99	42.99						
	37		B.	3.15	5.59	7.78	9.97	12.35						
	38	α Pegasi	C.	32.24	34.85	36.95	38.75	40.80	56 36.72	− 0.01	+45.81	22 57 22.52	− 5.09	
	39		D.	1.12	3.14	5.51	8.12	10.10						
	40		E.	30.55	33.11	36.21	39.06	41.62						
	41		A.	30.48	33.48	36.06	38.46	41.56						
	42		B.	0.83	3.49	5.81	7.88	10.17						
	43	ι Piscium	C.	29.90	31.88	33.71	35.96	37.88	31 33.79	− 0.07	+45.81	23 32 19.53	− 5.38	
	44		D.	57.54	59.31	1.93	4.31	6.05						
	45		E.	26.11	28.74	31.61	34.46	37.13						
	46		A.	42.22	45.45	48.01	50.53	53.68						
	47		B.	14.06	16.83	18.78	20.96	23.60						
	48	Lalande 4238	C.	44.18	46.40	48.40	50.78	52.73	8 48.38	+ 0.01	+45.80	2 9 34.19	− 6.34	
	49		D.	13.21	14.80	17.92	19.91	22.62						
	50		E.	43.35	46.00	48.83	51.95	54.25						
	51		A.	52.90	55.83	58.03	0.49	3.67						
	52		B.	23.31	25.66	27.71	29.90	32.37						
17	53	β Aquarii	C.	51.89	54.21	56.10	57.86	0.10	22 56.02	− 0.14	+48.30	21 23 44.18	− 4.68	
	54		D.	19.89	21.59	24.20	26.21	28.85						
	55		E.	48.64	50.98	53.98	56.92	59.26						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 23h. 0m. m. s.	s.	s.	s.	s.
Nov. 7	+ 0 44.24	lg 0.011	− 0.108	+ 0.353	− 0.02
10	+ 0 45.85	g 0.001	− 0.108	+ 0.353	− 0.02
11	+ 0 45.81	g 0.002	− 0.108	+ 0.353	− 0.02
17	+ 0 48.32	lg 0.014	− 0.108	+ 0.353	− 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	1.59	4.43	7.11	9.22	12.60						
	2		B.	32.36	34.89	36.98	38.88	41.23						
Nov. 17	3	ε Pegasi	C.	1.53	3.49	5.47	7.28	9.41	36 5.34	— 0.04	+48.30	21 36 53.60	— 4.47	L.
	4		D.	29.12	31.15	33.60	36.09	38.27						
	5		E.	58.19	0.79	3.88	6.70	9.16						
	6		B.	14.91	18.32	21.52	24.59	28.42						
	7		C.	56.60	0.00	3.09	6.00	8.94		—21.37				
	8	α Gruis	D.	38.22	41.24	44.92	48.03	51.53	58 24.47	— 0.49	+48.31	21 58 50.92	— 5.72	
	9		E.	20.59	24.47	28.79	32.67	36.57						
	10		A.	19.50	22.80	25.13	27.74	30.68						
	11		B.	50.48	53.04	55.32	57.26	59.72						
	12	Neptune	C.	19.44	21.63	23.54	25.27	27.68	33 23.61	— 0.16	+48.31	22 34 11.76	- - -	
	13		D.	47.52	49.80	52.19	54.81	56.67						
	14		E.	16.40	19.19	22.17	24.98	27.41						
	15		B.	0.75	3.57	5.79	8.32	11.19						
	16		C.	33.57	35.94	38.41	40.92	43.00		—16.68				
	17	α Piscis Australis	D.	5.67	8.22	10.98	13.65	15.99	48 55.05	— 0.31	+48.32	22 49 26.38	— 5.38	
	18		E.	38.75	41.33	45.22	48.50	51.27						
	19		A.	29.46	32.48	35.00	37.31	40.39						
	20		B.	0.54	3.10	5.29	7.36	9.83						
	21	α Pegasi	C.	29.98	31.69	34.05	36.18	38.41	56 34.19	— 0.01	+48.32	22 57 22.50	— 5.01	
	22		D.	58.87	0.57	3.00	5.55	7.70						
	23		E.	27.98	30.39	33.86	36.63	39.12						
	24		A.	28.32	31.00	33.59	36.03	39.06						
	25		B.	58.58	1.18	3.16	5.03	7.50						
	26	ι Piscium	C.	27.13	29.30	31.23	33.17	35.30	31 31.24	— 0.07	+48.33	23 32 19.50	— 5.32	
	27		D.	55.03	56.88	59.15	1.80	3.80						
	28		E.	23.55	26.25	28.98	31.67	34.18						
	29		A.	56.06	59.20	1.50	4.14	6.64						
	30		B.	26.58	29.12	31.19	33.25	35.65						
	31	Iris	C.	55.20	57.38	59.43	1.36	3.32	41 59.36	— 0.06	+48.33	23 42 47.63	- - -	
	32		D.	23.14	25.16	27.35	29.75	32.17						
	33		E.	52.14	54.52	57.22	59.91	2.60						
	34		A.	43.10	46.16	48.85	51.27	54.38						
	35		B.	14.53	16.96	19.23	21.00	23.92						
	36	γ Pegasi	C.	44.03	46.13	48.15	50.15	52.45	4 48.14	— 0.01	+48.33	0 5 36.46	— 5.53	
	37		D.	12.48	14.60	16.96	19.44	21.74						
	38		E.	42.00	44.65	47.60	50.48	53.19						
	39		A.	14.08	17.25	19.81	22.52	25.70						
	40		B.	46.14	49.06	51.12	53.20	55.85						
	41	β Ceti	C.	16.60	18.45	20.73	22.93	24.81	35 20.70	— 0.22	+48.34	0 36 8.82	— 5.47	
	42		D.	45.80	47.80	50.13	52.78	54.90						
	43		E.	15.83	18.60	21.50	24.50	27.37						
	44		A.	45.38	48.31	50.85	53.30	56.23						
	45		B.	16.00	18.33	20.50	22.70	25.17						
	46	θ Ceti	C.	44.91	47.10	49.03	50.89	53.12	15 48.96	— 0.16	+48.35	1 16 37.15	— 5.61	
	47		D.	12.98	14.92	17.40	19.63	24.79						
	48		E.	41.73	44.07	47.10	50.04	52.68						
	49		A.	25.00	20.00	55.00	36.00	29.00						
	50		B.	12.00	40.00	7.00	30.00	5.00						
	51	Polaris	C.	44.00	0.00	15.00	34.00	51.00	5 15.40	+13.41	+48.35	1 6 17.16	—73.60	
	52		D.	32.00	48.00	25.00	50.00	15.00						
	53		E.	59.00	41.00	40.00	32.00	0.00						
	54		B.	49.85	52.33	54.50	57.17	59.35						
21	55	Sun 1st L.	C.	20.09	22.54	24.64	26.85	29.10	44 39.96	—15.30	+49.35	15 46 23.02	- - -	
	56		D.	49.99	52.05	54.51	57.42	59.31		— 0.23				
	57		E.	19.95	22.94	25.71	29.09	31.82						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 23h. 0m.				
	m. s.	s.	s.	s.	s.
Nov. 17	+ 0 48.32	lg 0.014	— 0.108	+ 0.353	— 0.02
21	+ 0 49.48	lg 0.018	— 0.108	+ 0.353	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	36.09	39.20	41.85	44.39	47.62						
	2		B.	8.56	10.89	13.10	15.43	17.99						
Nov. 21	3	Sun, 2d L. - - - -	C.	38.87	41.10	43.20	45.31	47.35	46 43.14	— 0.23	+49.35	15 46 23.02	- - -	L.
	4		D.	8.29	10.50	13.00	15.61	17.82						
	5		E.	38.80	41.36	44.40	47.40	50.28						
	6		A.	18.40	21.48	24.21	26.98	30.41						
	7		B.	51.91	54.59	57.12	59.30	2.11						
	8	α Scorpii - - - - -	C.	23.82	26.15	28.32	30.58	33.09	19 28.33	— 0.27	+49.36	16 20 17.42	— 4.22	
	9		D.	54.30	56.93	59.59	2.12	4.59						
	10		E.	26.43	29.21	32.49	35.59	38.49						
	11		A.	22.29	25.25	27.83	30.51	33.82						
	12		B.	55.21	57.46	59.81	2.42	4.95						
	13	Venus, 1st L. - - -	C.	26.07	28.26	30.44	32.59	34.83	41 30.44	— 0.25	+49.37	16 42 20.06	- - -	
	14		D.	56.14	58.15	0.71	3.50	5.91						
	15		E.	27.21	29.72	33.15	36.17	38.51						
	16		A.	23.27	26.12	28.89	31.52	34.83						
	17		B.	56.17	58.61	1.11	3.41	5.66						
	18	Venus, 2d L. - - -	C.	27.08	29.29	31.38	33.40	35.79	41 31.44	— 0.25	+49.37	16 42 20.06	- - -	
	19		D.	57.04	59.34	1.94	4.45	6.75						
	20		E.	28.08	30.85	34.04	37.22	39.85						
	21		A.	19.20	22.21	24.56	27.00	30.00						
	22		B.	49.83	52.20	54.57	56.83	59.16						
	23	Neptune - - - -	C.	18.97	20.96	22.82	24.85	27.16	33 23.01	— 0.16	+49.47	22 34 12.32	- - -	
	24		D.	47.13	49.02	51.49	53.83	56.10						
	25		E.	16.09	18.38	21.51	24.40	26.90						
	26		A.	24.04	27.45	30.22	33.15	36.71						
	27		B.	59.45	2.16	4.73	7.03	9.86						
	28	α Pisces Australis - -	C.	32.40	35.03	37.30	39.66	41.80	48 37.15	— 0.31	+49.48	22 49 26.32	— 5.32	
	29		D.	4.68	6.91	9.71	12.55	14.63						
	30		E.	37.33	40.54	44.05	47.26	50.00						
	31		A.	27.93	31.06	33.70	36.10	38.96						
	32		B.	59.16	1.80	3.94	6.13	8.81						
	33	α Pegasi - - - - -	C.	28.96	31.12	33.09	35.13	37.16	56 32.94	— 0.01	+49.48	22 57 22.41	— 4.96	
	34		D.	57.40	59.23	1.70	4.25	6.30						
	35		E.	26.82	29.30	32.31	35.44	37.78						
	36		A.	20.15	23.59	25.96	28.64	32.00						
	37		B.	53.34	55.76	57.86	0.46	2.86						
	38	τ Pegasi - - - -	C.	24.22	26.39	28.46	30.90	32.95	12 28.57	+ 0.05	+49.48	23 13 18.10	— 5.06	
	39		D.	54.20	56.19	59.20	1.80	4.04						
	40		E.	25.22	27.70	31.10	34.16	37.17						
	41		A.	40.03	42.95	45.30	47.80	50.80						
	42		B.	10.62	13.00	15.12	17.09	19.50						
	43	Piscium (8312) - -	C.	39.06	41.12	43.22	45.26	47.40	46 43.24	— 0.06	+49.49	23 47 32.67	— 5.32	
	44		D.	7.09	9.15	11.33	13.80	15.80						
	45		E.	35.98	38.00	41.34	44.00	46.26						
	46		A.	43.13	46.46	49.10	51.93	55.25						
	47		B.	17.89	20.48	22.69	24.87	27.59						
	48	α Andromadæ - - -	C.	49.85	52.08	54.34	56.63	59.00	59 54.46	+ 0.09	+49.50	0 0 44.05	— 5.60	
	49		D.	21.25	23.60	26.13	29.03	31.43						
	50		E.	53.75	56.25	59.82	3.38	5.84						
	51		A.	41.94	45.00	47.48	50.01	53.01						
	52		B.	13.25	15.70	17.90	20.03	22.50						
	53	ν Pegasi - - - -	C.	42.83	44.89	46.86	49.00	50.93	4 46.85	— 0.01	+49.50	0 5 36.34	— 5.49	
	54		D.	11.17	13.25	15.85	18.16	20.18						
	55		E.	40.67	43.23	46.20	49.36	51.75						

13, 18. Correction for Semidiameter = $0^{s}.36$.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $23^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Nov. 21	+ 0 49.48	lg 0.018	— 0.108	+ 0.353	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	16.56	19.59	21.98	24.36	27.62						
	2		B.	46.93	49.28	51.52	53.52	55.99						
Nov. 22	3	α Aquarii	C.	15.73	17.70	19.63	21.62	23.46	57 19.62	− 0.21	+49.96	21 58 9.37	− 4.69	L.
	4		D.	43.22	45.35	47.58	50.29	52.09						
	5		E.	11.89	14.48	17.41	20.14	22.45						
	6		A.	10.00	12.41	15.52	18.06	20.95						
	7		B.	40.50	42.78	44.90	47.80	49.81						
	8	ζ Pegasi	C.	8.55	11.41	13.82	15.71	17.86	33 13.71	− 0.13	+49.97	22 34 3.55	− 4.80	
	9		D.	37.73	40.16	42.40	44.46	46.61						
	10		E.	6.42	9.27	12.10	14.75	17.86						
	11		A.	27.44	30.08	32.93	35.98	38.58						
	12		B.	58.73	0.62	3.46	6.00	8.20						
	13	α Pegasi	C.	28.31	30.19	32.51	34.38	36.68	56 32.41	− 0.09	+49.98	22 57 22.30	− 4.94	
	14		D.	57.00	59.09	1.12	3.41	5.95						
	15		E.	26.19	29.49	32.02	34.57	37.45						
	16		B.	24.82	26.75	29.22	31.58	33.76						
	17	Piscium (8127)	C.	53.16	55.50	57.51	59.46	1.41	12 11.84	−14.43	+49.98	23 12 47.22	− 5.09	
	18		D.	21.17	23.60	25.50	27.69	30.05		− 0.17				
	19		E.	49.77	52.61	55.19	57.69	0.46						
	20		A.	26.27	28.50	31.53	34.65	37.20						
	21		B.	57.00	58.79	1.31	3.97	6.06						
	22	ι Piscium	C.	25.48	27.40	29.60	31.44	33.34	31 29.49	− 0.16	+49.98	23 32 19.31	− 5.26	
	23		D.	53.00	55.80	57.60	59.91	2.37						
	24		E.	21.60	24.73	27.36	30.00	32.46						
	25		A.	39.57	41.96	44.70	47.86	50.24						
	26		B.	10.00	12.20	14.38	17.07	19.00						
	27	Piscium (8312)	C.	38.85	41.17	42.84	44.59	47.00	46 42.83	− 0.15	+49.99	23 47 32.67	− 5.31	
	28		D.	6.06	9.20	11.24	13.12	15.74						
	29		E.	34.87	38.06	41.32	43.32	46.38						
	30		A.	2.00	4.63	7.59	10.37	13.21						
	31		B.	32.78	34.96	37.29	39.70	41.60						
	32	Piscium (8354)	C.	1.29	3.36	5.52	7.45	9.50	54 5.44	− 0.14	+49.99	23 54 55.29	− 5.35	
	33		D.	29.27	31.46	33.72	35.80	38.00						
	34		E.	57.86	0.88	3.03	5.78	8.93						
	35		A.	41.77	44.30	47.06	49.90	52.70						
	36		B.	12.89	15.14	17.83	20.16	22.19						
	37	γ Pegasi	C.	42.59	44.64	46.83	48.49	50.88	4 46.57	− 0.09	+49.99	0 5 36.47	− 5.48	
	38		D.	11.04	13.32	15.57	17.62	20.08						
	39		E.	40.00	43.35	46.05	48.22	51.55						
	40		A.	12.95	15.43	18.40	21.33	24.26						
	41		B.	45.13	47.20	49.46	52.22	54.38						
	42	β Ceti	C.	15.07	17.15	19.39	21.48	23.80	35 19.32	− 0.34	+50.00	0 36 8.98	− 5.42	
	43		D.	44.27	46.76	49.13	51.28	53.64						
	44		E.	14.24	17.32	20.03	22.69	25.86						
	45		A.	5.00	0.00	45.00	40.00	18.00						
	46		B.	15.00	32.00	59.00	34.00	55.00						
	47	Polaris	C.	38.00	54.00	14.00	28.00	47.00	5 10.44	+14.75	+50.01	1 6 15.20	−71.45	
	48		D.	25.00	6.00	20.00	38.00	10.00						
	49		E.	51.00	55.00	28.00	6.00	58.00						
	50		A.	42.97	46.06	49.62	53.46	56.56						
	51		B.	21.91	24.49	27.59	30.74	33.19						
26	52	α Lyræ	C.	58.35	0.81	3.30	5.75	8.46	31 3.43	+ 0.13	+49.80	18 31 53.36	− 1.74	
	53		D.	33.71	36.71	39.45	42.05	45.09						
	54		E.	10.24	13.93	17.15	20.10	24.08						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $23^{h.}\ 0^{m.}$				
	m. s.	s.	s.	s.	s.
Nov. 22	+ 0 49.98	lg 0.015	− 0.163	+ 0.421	− 0.02
26	+ 0 49.78	g 0.006	− 0.163	+ 0.421	− 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	38.48	40.71	43.47	46.60	49.02						
	2		B.	9.00	11.10	13.64	15.94	18.05						
Nov. 26	3	α Aquilæ	C.	37.81	39.87	41.91	43.92	46.10	42 41.89	— 0.14	+49.80	19 43 31.55	— 3.71	L.
	4		D.	5.81	8.21	10.19	12.43	14.73						
	5		E.	34.52	37.54	40.10	42.51	45.57						
	6		A.	16.69	18.91	21.75	24.85	27.69						
	7		B.	47.19	49.31	51.61	54.06	55.92						
	8	α Aquarii	C.	15.81	17.61	19.59	21.78	23.58	57 19.67	— 0.21	+49.78	21 58 9.24	— 4.64	
	9		D.	43.51	45.68	47.71	49.96	52.00						
	10		E.	11.90	14.98	17.29	19.72	22.73						
	11		A.	18.83	21.34	24.10	27.06	29.78						
	12		B.	49.75	51.91	54.49	56.79	59.00						
	13	Pegasi (7796)	C.	18.81	20.90	22.90	24.88	27.10	13 22.93	— 0.11	+49.78	22 14 12.60	— 4.59	
	14		D.	47.11	49.12	51.80	53.80	56.25						
	15		E.	15.97	18.96	21.51	24.12	27.05						
	16		A.	30.87	33.26	36.28	39.17	41.66						
	17		B.	1.50	3.43	6.08	8.39	10.56						
	18	Aquarii (7863)	C.	30.02	32.13	33.97	35.86	38.00	25 33.99	— 0.22	+49.78	22 26 23.55	— 4.83	
	19		D.	57.35	0.16	2.25	4.30	6.56						
	20		E.	26.11	29.15	31.71	34.17	36.89						
	21		A.	3.98	6.79	9.98	13.51	16.33						
	22		B.	38.87	41.17	44.16	47.08	49.30						
	23	Piscis Australis (7909)	C.	11.57	14.42	16.40	18.83	21.35	33 16.57	— 0.45	+49.78	22 34 5.90	— 5.18	
	24		D.	43.90	46.50	49.20	51.22	54.29						
	25		E.	16.85	20.28	23.11	25.89	29.18						
	26		A.	27.36	29.81	33.02	36.06	38.71						
	27		B.	58.99	1.20	3.61	6.23	8.31						
	28	α Pegasi	C.	28.63	30.62	32.65	34.58	37.19	56 32.55	— 0.09	+49.78	22 57 22.24	— 4.89	
	29		D.	56.51	59.25	1.60	3.74	6.19						
	30		E.	26.18	29.17	32.06	34.61	37.52						
	31		A.	26.54	28.98	31.76	34.91	37.52						
	32		B.	57.15	59.05	1.30	3.99	5.92						
	33	i Piscium	C.	25.65	27.79	29.51	31.47	33.40	31 29.63	— 0.16	+49.77	23 32 19.24	— 5.22	
	34		D.	53.11	55.43	57.73	59.78	2.39						
	35		E.	21.70	25.00	27.40	29.90	33.30						
	36		A.	18.79	20.95	23.75	26.85	29.46						
	37		B.	48.99	51.19	53.58	55.98	57.92						
	38	Piscium (8311)	C.	17.59	19.59	21.59	23.58	25.64	46 21.59	— 0.21	+49.77	23 47 11.15	— 5.28	
	39		D.	45.20	47.41	49.71	51.80	54.05						
	40		E.	13.98	16.75	19.12	21.55	24.64						
	41		A.	1.75	4.63	7.41	10.50	12.63						
	42		B.	32.52	34.79	37.20	39.58	41.66						
	43	Piscium (8354)	C.	1.52	3.59	5.65	7.51	9.54	54 5.49	— 0.14	+49.77	23 54 55.12	— 5.32	
	44		D.	29.45	31.70	33.70	35.69	38.30						
	45		E.	58.11	1.11	3.60	5.90	9.17						
	46		A.	42.09	44.28	47.35	50.50	52.89						
	47		B.	13.02	15.26	17.63	20.12	22.13						
	48	γ Pegasi	C.	42.56	44.68	46.50	48.67	50.79	4 46.70	— 0.09	+49.77	0 5 36.38	— 5.45	
	49		D.	11.29	13.56	15.95	18.03	20.21						
	50		E.	40.34	43.21	46.11	48.64	51.71						
	51		A.	13.08	15.63	18.56	21.78	24.60						
	52		B.	45.23	47.36	49.93	52.43	54.37						
	53	β Ceti	C.	15.20	17.29	19.19	21.61	23.61	35 19.42	— 0.34	+49.77	0 36 8.85	— 5.39	
	54		D.	44.30	46.89	48.98	51.12	53.74						
	55		E.	14.46	17.47	20.20	22.73	25.83						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At 23h. 0m.				
	m. s.	s.	s.	s.	s.
Nov. 26	+ 0 49.78	g 0.006	— 0.163	+ 0.421	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	48.56	51.00	53.80	56.79	59.18						
	2		B.	19.40	21.59	23.96	26.70	28.66						
Nov. 26	3	ψ^2 Ceti	C.	48.63	50.82	52.74	54.68	56.81	41 52.70	— 0.29	+49.77	0 42 42.18	— 5.41	L.
	4		D.	16.98	19.38	21.71	23.39	25.91						
	5		E.	45.87	48.90	51.41	53.85	56.87						
	6		B.	15.00	35.00	10.00	40.00	54.00						
	7	Polaris	C.	38.00	59.00	15.00	30.00	48.00	5 15.47	+ 0.71 +14.76	+49.76	1 6 20.70	—69.51	
	8		D.	38.00	0.00	20.00	44.00	26.00						
	9		A.	25.62	27.89	30.82	33.70	36.34						
	10		B.	56.73	58.70	0.90	3.40	5.45						
28	11	Neptune	C.	25.32	27.53	29.52	31.43	33.46	33 29.43	— 0.27	+49.41	22 34 18.57	. . .	
	12		D.	53.43	55.95	57.98	0.00	2.38						
	13		E.	22.39	25.25	27.96	30.31	33.30						
	14		A.	23.83	26.93	30.15	34.03	36.82						
	15		B.	59.63	1.81	4.75	7.40	9.77						
	16	α Piscis Australis	C.	32.65	34.85	37.16	39.44	42.12	48 37.16	— 0.45	+49.41	22 49 26.12	— 5.21	
	17		D.	4.58	7.20	9.78	12.02	14.89						
	18		E.	37.71	41.12	43.96	46.78	49.80						
	19		A.	28.00	30.52	33.48	36.48	39.05						
	20		B.	59.60	1.53	3.85	6.73	8.65						
	21	α Pegasi	C.	29.10	31.20	33.05	35.12	37.28	56 33.03	— 0.09	+49.41	22 57 22.35	— 4.87	
	22		D.	57.39	0.00	2.04	4.19	6.57						
	23		E.	26.71	29.95	32.37	34.98	37.93						
	24		A.	5.19	7.98	10.55	13.80	16.65						
	25		B.	37.66	40.24	42.09	44.80	47.11						
	26	Aquarii (8196)	C.	8.75	10.96	12.70	14.74	17.06	23 12.82	— 0.37	+49.41	23 24 1.86	— 5.17	
	27		D.	38.61	40.80	43.24	45.40	47.83						
	28		E.	9.14	12.10	14.86	17.65	20.64						
	29		A.	27.00	29.63	32.31	35.35	37.58						
	30		B.	57.59	59.47	2.01	4.30	6.30						
	31	i Piscium	C.	26.25	28.02	30.01	32.16	35.15	31 30.19	— 0.16	+49.41	23 32 19.44	— 5.20	
	32		D.	53.92	56.34	58.49	0.59	2.94						
	33		E.	22.38	25.37	27.96	30.62	33.07						
	34		A.	42.22	44.68	47.61	50.66	53.27						
	35		B.	13.60	15.69	18.03	20.70	22.75						
	36	γ Pegasi	C.	42.87	44.93	46.90	48.94	51.06	4 47.04	— 0.09	+49.41	0 5 36.36	— 5.43	
	37		D.	11.32	13.90	15.96	18.24	20.50						
	38		E.	40.96	43.93	46.41	49.15	52.02						
	39		A.	28.24	30.85	33.84	36.58	39.40						
	40		B.	59.76	1.79	4.30	7.13	8.90						
Dec. 1	41	α Pegasi	C.	29.44	31.33	33.35	35.50	37.60	56 33.33	— 0.09	+49.10	22 57 22.34	— 4.83	K.
	42		D.	57.83	0.28	2.27	4.52	6.90						
	43		E.	27.05	30.08	32.81	35.25	38.29						
	44		A.	45.73	48.22	51.16	54.18	56.74						
	45		B.	16.42	18.30	21.03	23.42	25.47						
	46	φ Aquarii	C.	45.18	47.19	49.23	51.21	53.29	5 49.19	— 0.25	+49.10	23 6 38.04	— 5.00	
	47		D.	12.96	15.42	17.44	19.56	21.97						
	48		E.	41.54	44.66	47.11	49.64	52.63						
	49		A.	21.51	24.18	26.93	29.86	32.59						
	50		B.	52.54	54.59	56.90	59.48	1.49						
	51	ψ^3 Aquarii	C.	21.50	23.50	25.40	27.61	29.67	10 25.55	— 0.28	+49.10	23 11 14.37	— 5.03	
	52		D.	49.68	52.12	54.18	56.12	58.78						
	53		E.	18.44	21.49	24.12	26.62	29.47						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $23^h.\ 0^m.$				
	m. s.	s.	s.	s.	s.
Nov. 26	+ 0 49.78	g 0.006	— 0.163	+ 0.421	— 0.02
28	+ 0 49.41	g 0.006	— 0.163	+ 0.421	— 0.02
Dec. 1	+ 0 49.10	g 0.008	— 0.163	+ 0.421	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	27.22	29.59	32.60	35.54	38.02						
	2		B.	57.83	59.75	2.30	4.51	6.60						
Dec. 1	3	ι Piscium - - - -	C.	26.46	28.42	30.31	32.38	34.45	31 30.36	— 0.16	+49.10	23 32 19.30	— 5.17	K.
	4		D.	54.22	56.51	58.46	0.49	3.10						
	5		E.	22.58	25.55	28.13	30.71	33.40						
	6		A.	53.90	56.13	59.20	1.91	4.49						
	7		B.	24.85	27.18	29.68	32.12	34.22						
	8	Moon, 1st L. - - -	C.	54.13	56.32	58.11	0.23	2.40	43 58.29	— 0.21	+49.10	23 45 48.54	- -	
	9		D.	22.58	24.93	26.92	29.31	31.67						
	10		E.	51.71	54.91	57.39	59.98	2.96						
	11		A.	12.63	15.15	18.05	20.99	23.41						
	12		B.	43.28	45.25	47.83	49.99	52.04						
	13	27 Piscium (8328) - -	C.	11.81	14.09	15.82	17.71	19.81	50 15.86	— 0.23	+49.10	23 51 4.73	— 5.20	
	14		D.	39.55	42.11	43.98	46.11	48.47						
	15		E.	8.22	11.15	13.71	16.13	19.09						
	16		A.	52.30	54.70	57.42	0.19	3.11						
	17		B.	23.17	25.10	27.47	29.93	32.03						
	18	33 Piscium (8368) - -	C.	51.69	53.68	55.71	57.74	0.68	56 55.71	— 0.25	+49.10	23 57 44.56	— 5.23	
	19		D.	19.10	21.97	24.11	26.16	28.50						
	20		E.	48.09	51.16	53.61	55.99	59.05						
	21		A.	28.47	30.88	33.83	36.75	39.31						
	22		B.	59.11	1.10	3.47	5.88	8.00						
5	23	ι Piscium - - - -	C.	27.58	29.56	31.53	33.66	35.71	31 31.63	— 0.16	+47.77	23 32 19.24	— 5.12	
	24		D.	55.21	57.73	59.85	1.90	4.26						
	25		E.	23.75	26.98	29.28	31.91	34.93						
	26		A.	54.10	56.73	59.63	2.99	5.61						
	27		B.	27.17	29.28	32.05	34.55	36.58						
	28	α Arietis - - - - -	C.	57.94	0.11	2.19	4.31	6.65	58 2.28	— 0.02	+47.77	1 58 50.03	— 6.46	
	29		D.	27.81	30.63	32.77	35.00	37.53						
	30		E.	58.69	2.00	4.51	7.51	10.66						
	31		B.	56.98	59.15	1.34	3.97	5.81						
	32	ξ² Ceti - - - - - -	C.	25.90	27.92	29.95	31.78	33.72	19 44.32	—14.52	+47.77	2 20 17.43	— 6.10	
	33		D.	53.54	56.10	57.96	59.96	2.82		— 0.14				
	34		E.	22.37	25.58	27.93	30.32	33.38						
	35		A.	15.61	18.10	20.95	23.86	26.46						
	36		B.	46.21	48.18	50.82	53.20	55.08						
	37	ν Ceti - - - - - -	C.	14.96	16.93	18.90	20.87	22.86	27 18.83	— 0.16	+47.77	2 28 6.44	— 6.04	
	38		D.	42.26	45.03	47.10	49.00	51.44						
	39		E.	11.13	14.12	16.59	19.15	22.00						
	40		A.	47.34	49.90	52.71	55.60	58.28						
	41		B.	17.87	19.75	22.36	24.76	26.69						
	42	γ Ceti - - - - - -	C.	46.42	48.33	50.45	52.36	54.40	34 50.37	— 0.18	+47.77	2 35 37.96	— 6.01	
	43		D.	14.10	16.46	18.46	20.56	22.88						
	44		E.	42.53	45.41	47.93	50.46	53.31						
	45		A.	13.35	16.06	18.83	21.90	24.35						
	46		B.	44.93	47.06	49.74	52.22	54.36						
	47	Moon, 1st L. - - -	C.	14.77	16.92	18.96	20.83	23.13	49 18.87	— 0.11	+47.77	2 51 10.36	- - -	
	48		D.	43.96	45.79	48.11	50.29	52.38						
	49		E.	13.06	16.16	18.83	21.32	24.33						
	50		A.	59.75	2.32	5.06	8.07	10.58						
	51		B.	30.70	32.70	35.04	37.46	39.45						
	52	O Tauri - - - - - -	C.	59.43	1.30	3.43	5.30	7.56	16 3.40	— 0.14	+47.78	3 16 51.04	— 6.35	
	53		D.	27.23	29.67	31.79	33.80	36.40						
	54		E.	56.15	59.20	1.55	4.11	6.97						

8. Correction for Semidiameter = + 61ˢ. 36.
47. Correction for Semidiameter = + 63ˢ. 73.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 23ʰ. 0ᵐ. m. s.	s.	s.	s.	s.
Dec. 1	+ 0 49.10	g 0.008	— 0.163	+ 0.421	— 0.02
5	+ 0 47.77	lg 0.003	— 0.163	+ 0.421	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	50.30	52.68	55.44	58.56	1.30						
	2		B.	21.51	23.47	25.85	28.40	30.37						
Dec. 5	3	*f* Tauri - - - - -	C.	50.56	52.55	54.62	56.70	58.76	21 54.62	— 0.11	+47.78	3 22 42.29	— 6.51	L.
	4		D.	18.90	21.23	23.29	25.53	28.06						
	5		E.	47.94	51.00	53.43	55.90	59.02						
	6		A.	51.05	53.63	56.69	59.82	2.64						
	7		B.	24.04	26.19	28.74	31.38	33.70						
10	8	α Arietis - - - - -	C.	54.93	57.09	59.25	1.47	3.57	57 59.21	— 0.02	+50.80	1 58 49.99	— 6.43	
	9		D.	24.70	27.37	29.55	31.85	34.47						
	10		E.	55.64	58.95	1.60	4.25	7.57						
	11		A.	26.29	28.93	31.70	34.72	37.21						
	12		B.	57.00	59.00	1.40	3.52	5.71						
	13	Ceti (708) - - - -	C.	25.46	27.41	29.41	31.42	33.54	9 29 36	— 0.19	+50.80	2 10 19.97	— 5.91	
	14		D.	52.89	55.45	57.38	59.53	1.81						
	15		E.	21.51	24.45	26.91	29.27	32.13						
	16		A.	35.93	38.26	41.19	44.09	46.44						
	17		B.	6.37	8.49	10.71	13.26	15.22						
	18	Ceti 747 - - - -	C.	35.00	37.09	38.86	40.89	43.04	16 38.93	— 0.22	+50.80	2 17 29.51	— 5.81	
	19		D.	2.65	5.10	7.19	9.16	11.35						
	20		E.	31.29	34.06	36.71	39.08	41.76						
	21		A.	10.90	13.35	16.19	19.51	22.43						
	22		B.	43.98	46.20	48.71	51.31	53.54						
	23	Fornacis (773) - -	C.	15.10	17.12	19.27	21.51	23.78	22 19.29	— 0.38	+50.80	2 23 9.71	— 5.40	
	24		D.	45.06	47.71	49.93	52.15	54.65						
	25		E.	16.19	19.21	22.03	24.59	27.80						
	26		A.	10.67	13.13	15.88	19.08	21.31						
	27		B.	41.59	43.56	46.00	48.42	50.49						
	28	Dec. + 10° 25′ - -	C.	10.58	12.55	14.56	16.80	18.85	30 14.57	— 0.12	+50.80	2 31 5.25	— 6.17	
	29		D.	38.48	41.10	43.19	45.30	47.74						
	30		E.	7.56	10.53	13.10	15.47	18.40						
	31		A.	44.18	46.61	49.58	52.45	55.06						
	32		B.	14.91	16.86	19.22	21.50	23.55						
	33	γ Ceti - - - - -	C.	43.17	45.24	47.29	49.10	51.20	34 47.24	— 0.18	+50.80	2 35 37.86	— 6.00	
	34		D.	10.93	13.38	15.40	17.37	19.82						
	35		E.	39.24	42.30	44.93	47.41	50.21						
	36		B.	9.30	11.60	14.00	16.36	18.32						
	37		C.	38.00	40.00	42.00	43.98	46.02	53 56.39	—14.42	+50.80	2 54 32.60	— 6.12	
	38	α Ceti - - - - -	D.	5.58	8.09	10.12	12.20	14.37		— 0.17				
	39		E.	34.25	37.21	39.60	41.95	44.91						
	40		A.	44.42	47.31	50.53	54.00	56.73						
	41		B.	19.54	21.98	24.80	27.42	29.85						
	42	α Eridani - - - - -	C.	52.37	54.80	57.00	59.12	11.60	4 56.89	— 0.44	+50.81	3 5 47.26	— 5.31	
	43		D.	24.11	26.63	29.15	31.61	34.32						
	44		E.	56.78	0.25	3.00	5.90	9.04						
	45		A.	19.40	23.16	27.50	31.71	35.96						
	46		B.	5.80	8.77	12.79	16.02	19.64						
	47	α Persei - - - - -	C.	49.80	52.83	56.05	59.47	2.26	12 55.87	+ 0.27	+50.81	3 13 46.95	— 8.75	
	48		D.	32.04	36.00	38.90	42.29	45.79						
	49		E.	15.69	20.47	24.16	27.84	32.35						
	50		A.	49.10	51.60	54.40	57 36	59.82						
	51		B.	19.69	21.82	24.10	26.46	28.62						
	52	Eridani (1124) - -	C.	48.37	50.34	52.31	54.40	56.35	30 52.36	— 0.25	+50.81	3 31 42.92	— 5.94	
	53		D.	16.18	18.69	20.66	22.79	25.09						
	54		E.	44.85	47.51	50.12	52.75	55.51						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At 0h. 0m.				
	m. s.	s.	s.	s.	s.
Dec. 5	+ 0 47.77	lg 0.003	— 0.163	+ 0.421	— 0.02
10	+ 0 50.79	lg 0.005	— 0.163	+ 0.421	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	42.23	44.88	47.96	51.29	54.05						
	2		B.	15.38	17.61	20.21	22.97	25.09						
Dec. 10	3	η Tauri	C.	46.51	48.73	50.84	53.12	55.39	37 50.88	— 0.02	+50.81	3 38 41.67	— 7.10	L.
	4		D.	16.54	19.19	21.43	23.79	26.54						
	5		E.	47.72	50.96	53.75	56.29	59.42						
	6		A.	12.49	15.09	17.89	20.90	23.46						
	7		B.	43.72	45.95	48.35	50.79	52.96						
	8	γ¹ Eridani	C.	13.04	15.21	17.34	19.19	21.19	50 17.25	— 0.30	+50.81	3 51 7.76	— 5.75	
	9		D.	41.66	44.00	46.11	48.46	50.75						
	10		E.	11.00	13.93	16.62	19.20	22.00						
	11		A.	29.69	32.36	35.19	38.00	40.99						
	12		B.	1.39	3.69	6.00	8.55	10.69						
	13	α Tauri	C.	31.02	33.27	35.21	37.22	39.49	26 35.21	— 0.08	+50.81	4 27 25.94	— 6.91	
	14		D.	59.72	2.29	4.40	6.69	9.11						
	15		E.	29.47	32.58	35.12	37.65	40.55						
	16		B.	33.12	35.43	38.19	40.95	42.90						
	17		C.	3.70	5.61	8.03	10.03	12.19		—15.31				
	18	Eridani (1451)	D.	33.18	35.49	37.90	40.10	42.65	33 23.28	— 0.35	+50.81	4 33 58.43	— 5.60	
	19		E.	3.39	6.42	9.23	11.97	15.03						
	20		A.	20.42	22.83	25.61	28.69	31.40						
	21		B.	51.96	54.10	56.53	59.06	1.12						
	22	Tauri (1485)	C.	21.53	23.46	25.60	27.51	29.87	40 25.62	— 0.08	+50.81	4 41 16.35	— 6.90	
	23		D.	50.15	52.56	54.82	56.90	59.39						
	24		E.	19.83	23.00	25.45	27.99	30.80						
	25		A.	50.96	53.27	56.33	59.65	2.48						
	26		B.	23.83	26.05	28.76	31.49	33.73						
	27	Tauri (1527)	C.	55.05	57.21	59.49	1.51	3.90	47 59.42	— 0.02	+50.81	4 48 50.21	— 7.33	
	28		D.	25.31	27.79	30.02	32.29	34.94						
	29		E.	56.21	59.61	2.61	4.81	8.15						
	30		A.	11.00	13.54	16.46	19.50	22.16						
	31		B.	42.52	44.73	47.00	49.61	51.64						
	32	Orionis (1557)	C.	11.87	14.12	16.24	18.22	20.39	55 16.18	— 0.09	+50.81	4 56 6.90	— 6.91	
	33		D.	40.52	43.00	45.39	47.48	49.79						
	34		E.	10.21	13.36	15.98	18.30	21.44						
	35		A.	31.98	34.19	37.05	40.10	42.84						
	36		B.	2.29	4.55	7.10	9.40	11.51						
	37	β Orionis	C.	31.19	33.25	35.49	37.39	39.46	6 35.35	— 0.26	+50.82	5 7 25.91	— 5.98	
	38		D.	59.04	1.65	3.72	5.86	8.11						
	39		E.	27.89	31.10	33.52	35.99	39.00						
	40		A.	54.00	56.72	0.16	3.29	5.99						
	41		B.	28.53	30.81	33.54	36.38	38.88						
	42	β Tauri	C.	1.09	3.44	5.71	7.98	10.39	16 5.58	+ 0.03	+50.82	5 16 56.43	— 7.64	
	43		D.	32.39	35.15	37.42	39.99	42.52						
	44		E.	4.89	8.11	10.98	13.95	17.18						
	45		A.	33.59	35.80	38.57	41.65	44.18						
	46		B.	4.00	5.97	8.25	10.75	12.88						
	47	δ Orionis	C.	32.38	34.24	36.35	38.24	40.47	23 36.35	— 0.20	+50.82	5 24 26.97	— 6.27	
	48		D.	0.22	2.43	4.38	6.48	8.99						
	49		E.	28.37	31.22	33.90	36.25	39.28						
	50		A.	48.99	51.22	54.04	57.00	59.60						
	51		B.	19.42	21.42	23.81	26.17	28.32						
	52	ε Orionis	C.	47.93	49.86	51.82	53.91	55.75	27 51.84	— 0.21	+50.82	5 28 42.45	— 6.23	
	53		D.	15.50	17.75	19.98	22.05	24.30						
	54		E.	44.04	46.93	49.48	51.82	54.76						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $0^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Dec. 10	+ 0 50.79	lg 0.005	— 0.163	+ 0.421	— 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	48.42	51.00	53.88	56.79	59.05						
	2		C.	22.99	25.39	27.85	30.05	32.62		−17.39				
Dec. 10	3	α Columbæ - - - -	D.	56.40	59.19	1.66	4.22	7.28	33 45.15	− 0.49	+50.82	5 34 18.09	− 5.11	L.
	4		E.	30.35	34.46	37.19	40.35	43.78						
	5		A.	15.30	17.95	20.62	23.65	26.30						
	6		B.	46.20	48.16	50.68	52.95	55.02						
	7	α Orionis - - - -	C.	14.88	16.95	19.02	20.98	23.02	46 18.91	− 0.15	+50.82	5 47 9.58	− 6.55	
	8		D.	42.90	45.15	47.33	49.40	51.70						
	9		E.	11.47	14.35	16.97	19.43	22.42						
	10		A.	1.66	4.03	7.00	10.42	13.02						
	11		B.	34.30	36.47	39.22	41.55	43.96						
	12	μ Geminorum - - -	C.	5.25	7.52	9.58	11.63	13.99	13 9.53	− 0.03	+50.82	6 14 0.32	− 7.24	
	13		D.	35.24	37.75	40.00	42.24	44.76						
	14		E.	5.83	9.00	11.87	14.40	17.61						
	15		A.	42.63	45.49	48.69	51.93	54.50						
	16		B.	15.86	18.15	20.75	23.53	25.65						
	17	ξ^1 Canis Majoris - - -	C.	46.98	49.06	51.44	53.66	55.88	24 51.37	− 0.38	+50.82	6 25 41.81	− 5.44	
	18		D.	17.11	19.87	22.00	24.16	26.66						
	19		E.	48.10	51.32	54.00	56.73	0.00						
	20		A.	11.93	14.38	17.59	20.80	23.86						
	21		B.	45.45	47.88	50.40	53.03	55.30						
	22	Geminorum (2254) -	C.	17.00	19.35	21.61	23.75	26.00	45 21.51	0.00	+50.82	6 46 12.33	− 7.30	
	23		D.	47.79	50.32	52.63	55.00	57.69						
	24		E.	19.14	22.62	25.16	27.87	31.30						
	25		A.	46.98	49.75	52.93	56.39	59.13						
	26		B.	21.77	24.03	26.83	29.38	31.64						
	27	ε Canis Majoris - - -	C.	54.06	56.43	58.68	0.83	3.26	51 58.65	− 0.43	+50.82	6 52 49.04	− 5.22	
	28		D.	25.55	28.42	30.88	33.16	35.64						
	29		E.	57.98	0.99	4.07	7.05	10.49						
	30		A.	8.19	11.81	15.00	18.30	20.96						
	31		B.	42.66	45.17	47.88	50.70	52.83						
	32	Canis Majoris (2368)	C.	14.63	16.60	18.88	21.08	23.32	5 18.87	− 0.40	+50.83	7 6 9.30	− 5.32	
	33		D.	45.10	47.73	50.20	52.50	55.02						
	34		E.	16.73	19.80	22.60	25.48	28.66						
	35		A.	35.00	37.68	41.00	43.87	46.55						
	36		B.	8.30	10.82	13.33	16.00	18.15						
	37	Canis Majoris (2418)	C.	39.90	42.00	44.22	46.33	48.73	11 44.22	− 0.39	+50.83	7 12 34.66	− 5.35	
	38		D.	10.11	12.90	15.06	17.59	19.96						
	39		E.	41.64	44.87	47.70	50.35	53.41						
	40		A.	57.48	0.42	3.19	6.47	9.45						
	41		B.	31.49	33.54	36.16	39.00	41.00						
	42	Moon, 2d L. - - -	C.	2.77	4.96	7.28	9.30	11.90	34 7.21	− 0.03	+50.83	7 33 46.74	- - -	
	43		D.	33.54	36.00	38.36	40.70	43.28						
	44		E.	5.02	7.98	10.79	13.54	16.69						
	45		A.	4.96	7.53	10.59	13.70	16.53						
	46		B.	38.18	40.69	43.12	45.95	47.96						
	47	ξ Argus - - - - -	C.	9.22	11.74	14.03	16.11	18.53	42 13.96	− 0.39	+50.83	7 43 4.40	− 5.30	
	48		D.	39.92	42.70	45.00	47.13	49.67						
	49		E.	11.28	14.41	17.10	19.95	23.06						
	50		B.	39.26	41.35	43.72	46.76	48.52						
	51		C.	10.34	12.38	14.60	16.77	19.25		−15.75				
16	52	Venus 1st L. - - -	D.	40.74	43.11	45.61	47.84	50.72	58 31.28	− 0.39	+48.70	18 59 4.22	- - -	
	53		E.	15.43	17.77	20.83	24.00	26.61						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $0^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Dec. 10	+ 0 50.79	lg 0.005	− 0.163	+ 0.421	− 0.02
16	+ 0 48.48	g 0.045	− 0.163	+ 0.421	− 0.02

42. Correction for Semidiameter = − $71^{s.}$.27.
52. Correction for Semidiameter = $0^{s.}$.38.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	1.22	3.43	6.22	9.33	11.84						
	2		B.	31.58	33.67	36.37	38.75	40.75						
Dec. 16	3	ε Pegasi	C.	0.78	2.77	4.66	6.76	8.78	36 4.71	− 0.13	+48.59	21 36 53.17	− 4.12	L.
	4		D.	28.60	31.00	33.20	35.49	37.71						
	5		E.	57.28	0.60	2.97	5.50	8.53						
	6		A.	17.80	20.22	23.13	25.96	28.55						
	7		B.	48.15	50.47	52.69	55.11	57.23						
	8	α Aquarii	C.	16.71	18.65	20.66	22.77	24.81	57 20.77	− 0.21	+48.57	21 58 9.13	− 4.42	
	9		D.	44.56	46.66	49.05	50.91	53.38						
	10		E.	12.94	15.99	18.42	20.82	23.68						
	11		A.	11.06	13.40	16.28	19.33	21.91						
	12		B.	41.71	43.90	46.55	49.11	51.00						
	13	ζ Pegasi	C.	10.86	12.86	15.03	16.85	19.16	33 14.94	− 0.13	+48.55	22 34 3.36	− 4.50	
	14		D.	38.98	41.50	43.53	45.69	47.90						
	15		E.	7.88	10.90	13.48	15.82	18.77						
	16		A.	24.75	27.56	31.03	34.33	37.21						
	17		B.	0.32	2.55	5.36	8.20	10.53						
	18	α Piseis Australis	C.	33.22	35.32	37.87	40.28	42.44	48 37.87	− 0.45	+48.53	22 49 25.95	− 4.95	
	19		D.	5.14	8.08	10.33	13.06	15.71						
	20		E.	38.32	41.73	44.90	47.48	51.02						
	21		A.	28.63	31.12	34.20	37.37	39.69						
	22		B.	0.11	2.44	4.72	7.18	9.39						
	23	α Pegasi	C.	29.55	31.55	33.42	35.17	37.79	56 33.63	− 0.09	+48.53	22 57 22.07	− 4.64	
	24		D.	58.18	0.76	2.57	4.81	7.11						
	25		E.	27.49	30.56	32.85	35.54	38.58						
	26		A.	30.40	32.55	35.51	38.55	41.00						
	27		B.	0.74	2.80	5.46	7.80	9.90						
18	28	ι Piscium	C.	29.48	31.60	33.42	35.54	37.57	31 33.46	− 0.16	+45.79	23 32 19.09	− 4.97	
	29		D.	57.30	59.45	1.74	3.75	6.03						
	30		E.	25.69	28.77	31.11	33.70	36.65						
	31		A.	22.57	24.87	27.76	30.76	33.04						
	32		B.	52.98	54.86	57.45	59.76	1.75						
	33	Piseium (8311)	C.	21.40	23.47	25.28	27.29	29.61	46 25.39	− 0.21	+45.78	23 47 10.96	− 4.97	
	34		D.	49.00	51.52	53.51	55.67	57.88						
	35		E.	17.50	20.48	22.75	25.36	28.24						
	36		A.	24.58	27.15	29.78	32.84	35.28						
	37		B.	55.14	57.22	59.50	1.98	4.02						
	38	Piscium (8346)	C.	23.70	25.64	27.60	29.66	31.52	53 27.67	− 0.23	+45.77	23 54 13.21	− 5.02	
	39		D.	51.55	53.88	55.87	57.87	0.36						
	40		E.	19.91	22.88	25.24	27.79	30.66						
	41		A.	46.65	49.34	52.50	55.94	58.72						
	42		B.	21.13	23.44	26.19	29.12	31.22						
	43	α Andromedæ	C.	53.55	55.80	58.00	0.00	2.66	59 58.03	+ 0.03	+45.76	0 0 43.82	− 5.24	
	44		D.	24.87	27.66	29.99	32.36	35.00						
	45		E.	57.12	0.64	3.19	6.21	9.46						
	46		A.	45.72	47.99	51.00	53.96	56.54						
	47		B.	16.99	19.00	21.40	23.98	26.00						
	48	γ Pegasi	C.	46.41	48.41	50.50	52.24	54.67	4 50.44	− 0.09	+45.75	0 5 36.10	− 5.20	
	49		D.	14.93	17.26	19.36	21.51	24.00						
	50		E.	44.60	47.33	49.57	52.42	55.34						
	51		B.	14.22	16.54	19.00	21.28	23.77						
	52	Iris	C.	43.63	45.42	47.48	49.55	51.42	16 2.00	−14.50	+45.74	0 16 33.09	. . .	
	53		D.	11.28	13.75	15.96	18.22	20.75		− 0.15				
	54		E.	39.96	43.04	45.46	48.12	51.09						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
	At $0^{h.}\ 0^{m.}$ m. s.	s.	s.	s.	s.
Dec. 16	+ 0 48.48	g 0.045	− 0.163	+ 0.421	− 0.02
18	+ 0 45.76	g 0.067	− 0.163	+ 0.421	− 0.02

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1851.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	16.77	19.06	21.99	25.16	28.07						
	2		B.	48.90	51.00	53.62	56.24	58.07						
Dec. 18	3	β Ceti - - - - - -	C.	18.75	21.00	23.07	25.12	27.27	35 23.11	— 0.34	+45.73	0 36 8.50	— 5.15	L.
	4		D.	48.12	50.52	52.72	55.00	57.44						
	5		E.	18.20	21.36	24.00	26.58	29.60						
	6		A.	48.00	50.56	53.27	56.11	58.85						
	7		B.	19.00	20.69	23.07	25.60	27.76						
	8	θ Ceti - - - - - -	C.	47.26	49.54	51.64	53.60	55.83	15 51.58	— 0.27	+45.68	1 16 36.99	— 5.39	
	9		D.	15.49	18.00	20.00	22.14	24.64						
	10		E.	44.39	47.20	49.68	52.35	55.00						
	11		A.	49.75	52.14	55.17	58.16	0.66						
	12		B.	20.92	23.00	25.33	27.74	30.00						
	13	Uranus - - - - -	C.	49.90	51.80	53.83	55.85	57.99	53 53.91	— 0.12	+45.63	1 54 39.42	- - -	
	14		D.	17.92	20.55	22.45	24.64	27.20						
	15		E.	46.99	50.08	52.63	55.14	58.00						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
	At $0^{h.}$ $0^{m.}$ m. s.	s.	s.	s.	s.
Dec. 18	+ 0 45.76	g 0.067	— 0.163	+ 0.421	— 0.02

OBSERVATIONS

WITH THE

MURAL CIRCLE,

1851.

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
March 4	1	Nadir	-	199 59 60.0	66.2	62.9	63.2	72.6	62.3	64.53	30.7130	30.6408	- -
	2	α Canis Minoris	- -	53 14 60.6	67.5	61.1	62.9	74.5	62.9	64.42	28.8056	- - -	30.06
11	3	α^2 Geminorum	- -	26 39 60.1	69.2	62.9	63.6	75.1	61.3	65.37	29.8008	- - -	30.014
	4	Nadir	- -	199 59 60.0	70.4	63.3	66.5	75.2	64.8	66.70	30.7674	30.6615	- -
14	5	ε Hydræ	- -	51 54 60.0	69.0	62.3	63.1	77.5	64.1	66.00	30.3278	- - -	30.2
	6	Moon, S.	- -	42 50 59.3	70.1	62.5	64.3	67.0	63.6	64.47	31.4580	- - -	30.198
	7	α Leonis	- -	46 9 60.0	71.2	63.5	64.5	67.6	63.3	65.02	29.1686	- - -	30.192
	8	Nadir	- -	199 59 60.0	68.5	62.6	64.6	72.8	64.5	65.50	30.7326	30.6452	- -
20	9	Nadir	- -	199 59 60.0	69.5	63.2	65.5	73.8	63.5	65.92	30.7346	30.6388	- -
	10	Nadir	- -	59.9	69.7	63.8	65.1	74.5	63.9	66.15	- - -	- - -	- -
	11	α Hydræ	- -	66 54 59.4	70.1	64.5	65.2	77.4	63.9	66.75	32.0268	- - -	29.930
April 4	12	Nadir	- -	199 59 60.0	65.8	62.4	63.3	72.2	64.7	64.73	30.7082	30.6326	- -
	13	Nadir	- -	60.1	66.3	62.4	62.8	72.5	64.5	64.77	- - -	- - -	- -
	14	ε Leonis	- -	34 24 60.5	67.2	63.4	62.7	74.9	62.8	65.25	29.7878	- - -	30.030
	15	α Leonis	- -	46 9 60.5	67.4	64.5	61.8	76.5	62.5	65.53	29.1642	- - -	30.024
22	16	Jupiter, S.	-	63 49 60.0	68.2	65.4	63.5	76.5	61.8	65.90	30.0573	- - -	29.956
	17	Nadir	- -	199 59 60.0	69.2	66.1	66.0	75.9	63.5	66.78	30.7590	30.6524	- -
	18	Nadir	- -	59.5	69.2	66.0	66.4	75.2	63.7	66.67	- - -	- - -	- -
May 26	19	Jupiter, N.	- -	62 49 60.0	61.1	62.2	60.0	68.9	61.8	62.33	31.6853	- - -	30.264
	20	Nadir	- -	199 59 60.0	62.5	64.3	61.9	68.9	63.6	63.53	30.6305	30.5733	- -
June 4	21	Jupiter, N.	- -	62 44 60.0	61.9	63.1	59.9	70.4	63.1	63.07	30.6927	- - -	30.040
	22	α Virginis	- -	69 14 60.1	63.7	65.2	62.1	72.0	65.0	64.68	30.1064	- - -	30.032
	23	4 Libræ	- -	83 14 59.9	62.8	64.9	62.1	68.9	63.0	63.60	32.1148	- - -	30.041
	24	B. A. C. (4913)	- -	82 54 59.8	61.2	64.7	60.1	67.5	60.5	62.30	31.8974	- - -	30.044
	25	β Libræ	- -	67 44 59.5	63.3	65.2	62.1	69.9	65.0	64.17	33.1126	- - -	30.06
	26	B. A. C., 5160	- -	92 59 59.5	63.3	64.9	59.8	68.5	60.9	62.82	34.4688	- - -	30.06
	27	Nadir	- -	199 59 60.2	61.3	63.9	64.0	67.1	64.6	63.52	30.6316	30.5748	- -
7	28	Moon, S.	- -	56 4 59.5	59.9	63.8	60.8	70.7	63.9	63.10	31.2984	- - -	29.692
	29	Nadir	- -	199 59 60.0	60.8	65.1	61.9	67.9	63.9	63.27	30.6306	30.5775	- -
9	30	Nadir	- -	199 59 60.0	58.2	63.3	59.8	66.5	63.6	61.90	30.6054	30.5737	- -
	31	Moon, S.	- -	66 39 60.0	60.2	64.2	59.8	69.3	63.0	62.75	29.4976	- - -	29.935
	32	ε Bootis	- -	31 9 60.5	61.5	63.8	61.6	70.6	63.5	63.58	29.6340	- - -	29.950
	33	ζ Ursæ Minoris	- -	340 39 59.8	61.6	66.4	62.1	71.5	61.5	63.82	31.3600	- - -	29.977
	34	Vesta	- -	76 4 59.9	62.3	65.8	63.5	70.5	62.0	64.00	32.5236	- - -	29.990
10	35	Irene	- -	73 4 61.1	62.1	65.0	62.0	69.4	61.3	63.48	30.5316	- - -	30.150
	36	Nadir	- -	199 59 60.0	61.8	64.7	61.5	68.1	62.3	63.07	30.6198	30.5680	- -
	37	Nadir	- -	59.8	62.1	64.9	62.0	68.5	62.3	63.27	- - -	- - -	- -
	38	Vesta	- -	76 4 60.0	61.5	65.1	61.8	69.0	61.3	63.12	29.7186	- - -	30.150
12	39	Polaris, S. P.	V. to I.	327 24 59.5	59.8	64.4	58.0	68.9	59.4	61.67	30.1274	- - -	30.040
	40	β Ursæ Minoris	- -	344 4 60.2	61.8	66.9	61.1	71.0	62.5	63.92	27.5403	- - -	30.062
	41	Nadir	- -	199 59 59.9	60.2	64.2	61.8	67.2	63.0	62.72	30.6098	30.5651	- -
13	42	α Bootis	- -	38 54 60.0	62.9	65.1	63.0	71.9	63.7	64.43	30.0336	- - -	30.110
	43	Irene	- -	73 14 60.0	64.6	65.5	64.5	71.3	63.1	64.83	31.0875	- - -	30.126
	44	Nadir	- -	199 59 60.0	62.4	65.3	64.5	68.1	64.0	64.05	30.6296	30.5641	- -
14	45	Polaris, S. P.	V. to I.	327 24 60.2	61.3	63.9	61.0	69.8	61.1	62.88	30.0478	- - -	30.214
	46	β Ursæ Minoris	- -	344 4 60.0	62.2	66.6	61.1	70.9	60.8	63.60	27.5240	- - -	30.214
	47	Irene	- -	73 14 60.5	63.0	65.9	63.5	70.8	62.1	64.30	27.9554	- - -	30.216
	48	Nadir	- -	199 59 60.0	62.4	65.7	64.5	68.5	63.1	64.03	30.6330	30.5678	- -
	49	Vesta	- -	76 19 59.4	61.5	65.5	64.1	70.3	60.2	63.50	32.3770	- - -	30.220
	50	Juno	- -	63 9 59.9	63.8	65.2	62.9	69.5	61.8	63.85	32.9792	- - -	30.220
16	51	Irene	- -	73 24 60.0	62.6	64.9	63.8	71.5	63.1	64.32	30.9820	- - -	30.284
	52	Nadir	- -	199 59 60.1	61.5	64.6	63.8	68.5	63.5	63.67	30.6304	30.5708	- -
	53	Vesta	- -	76 24 59.9	62.1	66.1	61.9	69.7	60.5	63.37	31.0000	- - -	30.298
17	54	Nadir	- -	199 59 60.0	60.9	64.6	63.4	67.1	62.3	62.88	30.6138	30.5634	- -
	55	Nadir	- -	59.9	61.3	65.7	63.0	67.3	62.5	63.28	- - -	- - -	- -
	56	Irene	- -	73 29 60.1	64.5	65.5	65.2	70.9	62.6	64.80	32.3997	- - -	30.455
	57	Weisse XV. 864	- -	73 9 59.1	64.1	65.2	64.8	70.5	61.1	64.13	32.2876	- - -	30.450
18	58	Nadir	- -	199 59 60.0	60.0	64.8	62.8	68.1	61.3	62.83	30.6116	30.5644	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	51.0	50.0	- - -	- - -	- - - -	- - - -	- -	B.*	March 4 to May 22, $r.$ = 62″.810.
2	57.2	46.4	- -	50.0	+ 1 55.21	+ 38.59	53 17 38.22	+ 5 36 1.03	+18.73		
3	53.2	52.8	51.2	51.1	+ 54.00	+ 6.79	26 41 6.16	+32 12 33.09	+ 9.08		
4	- -	- -	49.0	- -	- - -	- - -	- - - -	- - - -	- - -		
5	55.2	43.3	52.5	50.5	+ 20.10	+ 37.02	51 56 3.02	+ 6 57 36.23	+21.66		Unsteady.
6	52.5	42.1	52.0	50.2	− 50.89	−39 34.82	42 9 39.06	+16 44 0.19	- - -		
7	51.1	41.3	51.5	50.0	+ 1 32.85	+ 29.35	46 12 7.22	+12 41 32.03	+24.38		
8	- -	- -	51.5	49.5	- - -	- - -	- - - -	- - - -	- - -		
9	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
10	- -	- -	52.0	50.8	- - -	- - -	- - - -	- - - -	- - -		
11	48.5	37.2	48.0	45.5	− 1 27.17	+ 1 3.61	66 54 43.19	− 8 0 3.94	+26.67		Mic. should probably be 31.0268, and $\delta = -8° 1' 6''.75$.
12	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
13	- -	- -	- -	61.2	- - -	- - -	- - - -	- - - -	- - -		
14	61.4	54.0	59.2	60.0	+ 53.01	+ 14.88	34 26 13.14	+24 27 26.11	+19.12		
15	60.0	52.8	58.4	58.0	+ 1 32.33	+ 28.51	46 12 6.37	+12 41 32.88	+23.40		
16	54.5	49.5	- -	54.5	+ 37.42	+ 31.85	63 51 15.17	− 4 57 35.92	- - -		
17	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
18	- -	- -	- -	54.2	- - -	- - -	- - - -	- - - -	- - -		
19	70.1	67.0	69.0	68.5	− 69.81	+ 1 12.33	62 50 4.85	− 3 56 25.60	- - -		May 26 to July 2, $r.$ = 62″.790.
20	- -	- -	68.5	68.0	- - -	- - -	- - - -	- - - -	- - -		
21	75.0	70.7	72.0	71.0	− 7.39	1 9.74	62 46 5.42	− 3 52 26.17	- - -		Remarkably steady.
22	73.1	67.8	73.0	71.0	+ 29.47	+ 1 5.22	69 16 39.37	−10 23 0.12	+24.57		
23	69.5	66.2	- -	- -	− 1 36.63	+ 1 51.38	83 15 18.35	−24 21 39.10	+21.31		
24	69.8	65.9	71.0	70.0	− 1 23.11	+ 1 49.90	82 55 29.09	−24 1 49.84	+20.09		Unsteady.
25	69.5	64.2	71.0	69.0	− 2 39.29	+ 1 2.28	67 43 27.16	− 8 49 47.91	+15.19		
26	69.4	64.0	71.0	68.5	− 4 4.36	+ 3 2.51	92 59 0.97	−34 5 21.72	+15.89		Unsteady.
27	- -	- -	71.0	68.5	- - -	- - -	- - - -	- - - -	- - -		
28	75.5	75.0	76.0	72.4	− 45.09	−48 40.46	55 15 37.55	+ 3 38 1.70	- - -		Beautifully steady.
29	- -	- -	71.0	69.5	- - -	- - -	- - - -	- - - -	- - -		Image indistinct.
30	- -	- -	74.0	72.0	- - -	- - -	- - - -	- - - -	- - -		
31	73.2	68.0	72.5	71.5	+ 1 7.71	−56 33.62	65 44 36.84	− 6 50 57.59	- - -		
32	72.5	67.0	72.0	71.5	+ 59.07	+ 11.11	31 11 13.76	+27 42 25.49	+ 9.66		
33	70.9	64.4	70.2	70.0	− 49.19	− 46.32	340 38 28.31	+78 15 10.94	+ 0.89		Rather unsteady.
34	69.0	61.9	68.5	68.0	− 2 2.34	+ 1 17.97	76 4 19.63	−17 10 40.38	- - -		
35	69.5	64.7	69.5	68.5	+ 2.42	+ 1 15.50	73 6 21.40	−14 12 42.15	- - -		
36	- -	- -	69.0	68.5	- - -	- - -	- - - -	- - - -	- - -		Not corrected for Parallax; the correction to be applied is $\Delta\delta = +5''.12$.
37	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
38	69.0	63.0	68.5	68.0	+ 53.33	+ 1 18.37	76 7 14.82	−17 13 35.57	- - -		
39	72.2	69.2	- -	70.5	+ 27.56	− 1 13.21	327 24 16.02	+88 30 36.77	− 1.81		
40	70.0	66.0	- -	70.0	+ 3 10.08	− 41.84	344 7 32.16	+74 46 7.09	+ 1.30		
41	- -	- -	- -	69.0	- - -	- - -	- - - -	- - - -	- - -		
42	67.5	60.0	68.8	67.0	+ 33.33	+ 19.64	38 55 57.40	+19 57 41.85	+15.20		
43	64.5	58.2	68.0	65.0	− 32.81	+ 1 16.86	73 15 48.88	−14 22 9.63	- - -		Not corrected for Parallax; the correction to be applied is $\Delta\delta = +5''.06$.
44	- -	- -	68.0	65.0	- - -	- - -	- - - -	- - - -	- - -		
45	70.4	66.2	70.0	68.4	+ 32.68	− 1 14.06	327 24 21.50	+88 30 42.25	− 1.61		
46	66.0	59.2	67.0	66.0	+ 3 11.26	− 41.60	344 7 33.26	+74 46 5.99	+ 0.89		
47	65.0	52.8	66.0	65.5	+ 2 44.00	+ 1 18.05	73 19 6.35	−14 25 27.10	- - -		Misty. Not corrected for Parallax; corr. to be applied is $\Delta\delta = +5''.04$.
48	- -	- -	66.0	65.0	- - -	- - -	- - - -	- - - -	- - -		
49	64.5	55.9	66.0	64.0	− 1 53.42	+ 1 20.48	76 19 30.56	−17 25 51.31	- - -		
50	64.3	55.0	65.5	64.0	− 2 31.24	+ 51.74	63 8 24.35	− 4 14 45.10	- - -		May 26 to July 2, $r.$ = 62″.790
51	66.8	60.5	66.5	65.0	− 25.83	+ 1 17.38	73 25 55.87	−14 32 16.62	- - -		
52	- -	- -	- -	64.0	- - -	- - -	- - - -	- - - -	- - -		Not cor. for Parallax; the cor. to be applied is $\Delta\delta = +4''.99$.
53	64.5	56.5	65.5	64.0	− 26.95	+ 1 20.96	76 25 57.38	−17 32 18.13	- - -		
54	- -	- -	- -	63.5	- - -	- - -	- - - -	- - - -	- - -		
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	64.4	55.5	- -	63.8	− 1 55.13	+ 1 18.76	73 29 28.43	−14 35 49.18	- - -		Scarcely vis.; cor. for par. $\Delta\delta = +4''.97$.
57	63.4	54.0	- -	63.0	− 1 48.09	+ 1 18.04	73 9 34.08	−14 15 54.83	+11.88		Unsteady and faint.
58	- -	- -	64.0	64.0	- - -	- - -	- - - -	- - - -	- - -		

* In the column headed Observer the letter B indicates Professor Benedict; C. F., Mr. Charles Ferguson.

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
June 18	1	Nadir	- -	0 0 59.8	60.6	64.9	62.5	68.0	61.8	62.93	- - -	- - -	- -
	2	Irene	- -	73 29 59.8	62.3	65.2	64.3	70.0	62.4	64.00	28.9720	- - -	30.416
	3	Weisse XV. 845	- -	73 9 60.0	62.2	65.0	64.4	69.3	61.9	63.80	29.1870	- - -	30.412
	4	Weisse XV. 864	- -	73 9 60.0	62.3	65.1	64.1	69.3	61.8	63.77	32.2743	- - -	30.412
	5	Vesta	- -	76 29 59.4	63.2	66.1	64.5	70.9	60.9	64.17	29.4430	- - -	30.400
	6	Juno	- -	63 4 59.9	63.0	65.1	62.6	69.0	60.8	63.40	30.6213	30.5615	30.399
19	7	Nadir	- -	199 59 60.0	60.0	63.2	61.8	67.5	62.1	62.43	30.6016	30.5615	- -
	8	Nadir	- -	59.5	60.8	63.0	61.3	67.8	62.2	62.43	- - -	- - -	- -
	9	Anonymous	- -	73 34 60.0	62.4	65.2	64.1	71.8	62.0	64.25	31.1054	- - -	30.210
	10	Anonymous	- -	59.5	62.1	64.5	63.1	71.2	61.5	63.65	- - -	- - -	- -
	11	Anonymous	- -	63 9 57.9	61.0	63.1	61.1	69.0	60.2	62.05	29.1344	- - -	30.210
	12	Weisse XV. 864	- -	73 9 57.9	61.0	63.1	61.1	69.0	60.2	62.05	32.2226	- - -	30.210
	13	Vesta	- -	76 34 60.0	62.3	66.1	63.6	71.9	61.1	64.17	30.9378	- - -	30.200
	14	Juno	- -	63 4 59.0	61.0	62.6	61.1	69.0	60.5	62.20	30.6550	- - -	30.200
20	15	Anonymous	- -	73 34 59.8	60.1	63.0	61.6	71.4	61.1	62.83	31.1050	- - -	30.060
	16	Anonymous	- -	73 9 59.2	59.5	61.8	59.9	69.9	61.1	61.90	23.9680	- - -	30.058
	17	Weisse XV. 864	- -	73 9 59.2	59.5	61.8	59.9	69.9	61.1	61.90	32.2037	- - -	30.058
	18	Nadir	- -	199 59 60.2	59.0	62.6	60.0	68.1	62.5	62.07	30.6120	30.5777	- -
24	19	Nadir	- -	199 59 60.0	55.5	60.4	56.9	65.5	61.1	59.90	30.5558	30.5555	30.025
	20	β Libræ	- -	67 44 59.9	60.1	62.5	60.1	68.8	63.8	62.53	33.0622	- - -	30.038
	21	Irene	- -	73 54 59.5	58.8	63.0	60.5	68.1	60.8	61.78	30.7462	- - -	30.050
	22	Vesta	- -	76 54 59.6	58.5	62.9	59.0	68.3	60.5	61.47	33.0620	- - -	30.070
July 2	23	Irene	- -	74 29 59.1	55.0	61.3	58.8	62.8	60.0	59.50	32.0223	- - -	30.068
	24	Nadir	- -	199 59 59.5	52.7	61.2	68.1	61.4	60.0	60.48	30.5330	30.5234	- -
	25	Vesta	- -	77 24 59.4	55.8	62.5	59.5	64.0	60.4	60.27	32.3570	- - -	30.070
Sept. 4	26	Moon, S.	- -	82 35 60.1	53.2	60.0	55.7	60.8	56.1	57.65	27.8030	- - -	30.194
	27	Nadir	- -	199 59 60.0	53.0	61.9	58.1	60.8	59.5	58.88	30.4880	30.5035	- -
17	28	Nadir	- -	199 59 58.7	52.0	60.3	56.8	60.2	56.9	57.48	30.4542	30.4908	- -
	29	Nadir	- -	58.5	52.3	60.0	56.5	60.9	57.5	57.62	- - -	- - -	- -
	30	Iris	- -	46 49 60.0	56.5	60.6	60.2	64.4	56.9	59.77	29.3050	- - -	30.460
20	31	Nadir	- -	199 59 60.5	52.4	60.6	56.6	62.8	59.7	58.77	30.4908	30.5054	- -
	32	Nadir	- -	61.1	53.3	61.2	57.0	62.3	59.7	59.10	- - -	- - -	- -
26	33	Nadir	- -	199 59 59.5	53.4	62.2	58.5	61.5	58.4	58.92	30.4702	30.4834	- -
	34	Nadir	- -	59.5	55.3	62.1	57.6	61.6	58.5	59.10	- - -	- - -	- -
	35	Iris	- -	47 39 60.0	53.1	61.8	60.5	62.8	56.6	59.14	31.5502	- - -	29.821
	36	Iris	- -	60.0	53.1	61.6	60.8	62.9	56.5	59.15	- - -	- - -	- -
	37	Weisse O. 169	- -	51 54 60.1	56.2	61.8	63.2	64.0	58.7	60.67	28.6550	- - -	29.814
30	38	Nadir	- -	199 59 60.0	54.8	64.1	60.2	61.9	57.5	59.75	30.4780	30.4788	- -
	39	Nadir	- -	59.9	55.1	64.5	59.8	62.5	57.2	59.83	- - -	- - -	- -
	40	Iris	- -	48 4 60.0	55.6	62.8	60.9	63.5	57.6	60.07	30.2361	- - -	30.120
	41	Hygeia	- -	52 14 60.4	57.1	64.1	62.0	64.7	60.0	61.38	30.6306	- - -	30.120
Oct. 1	42	Nadir	- -	199 59 60.0	56.2	64.4	61.1	63.0	57.5	60.37	30.4840	30.4750	- -
	43	Nadir	- -	59.9	56.9	64.0	61.1	63.1	57.7	60.45	- - -	- - -	- -
	44	Iris	- -	48 9 60.0	58.1	63.9	62.0	66.3	57.9	61.37	28.4038	- - -	30.170
	45	Anonymous	- -	48 9 60.1	57.9	64.1	61.8	66.5	57.5	61.32	26.6074	- - -	30.170
2	46	Polaris	- -	327 24 61.7	58.1	65.9	60.9	67.4	57.0	61.83	30.6700	- - -	30.178
	47	Moon, S.	- -	81 39 60.0	56.1	62.5	56.8	63.7	55.7	59.13	32.0248	- - -	30.176
	48	Nadir	- -	199 59 60.0	55.2	62.7	59.9	62.7	56.9	59.57	30.4936	30.4982	- -
	49	Nadir	- -	60.0	55.0	63.0	59.5	62.9	56.9	59.55	- - -	- - -	- -
	50	Anonymous	- -	48 19 60.0	56.4	63.1	60.4	65.6	58.5	60.67	36.1436	30.4982	30.016
3	51	Moon, S.	- -	80 24 60.9	58.6	63.4	59.3	67.3	58.7	61.37	32.4518	- - -	29.817
	52	Nadir	- -	199 59 59.5	55.6	62.1	59.9	63.2	58.4	59.78	30.5016	30.5025	- -
	53	Nadir	- -	59.5	56.0	62.4	59.6	63.2	58.2	59.82	- - -	- - -	- -
	54	Iris	- -	48 24 59.5	55.3	62.1	59.4	66.5	57.7	60.08	29.0026	- - -	29.816
	55	Iris	- -	59.9	55.6	62.4	59.1	66.8	57.6	60.23	- - -	- - -	- -
	56	Anonymous	- -	48 19 59.5	54.1	63.0	57.9	65.5	56.2	59.37	36.1268	- - -	29.814
	57	Hygeia	- -	52 29 59.9	55.7	62.6	58.1	64.3	57.5	59.68	31.4362	- - -	29.812
	58	Moon, S.	- -	78 9 60.1	55.5	63.8	57.7	64.8	56.9	59.80	31.5852	- - -	30.004
4	59	Nadir	- -	199 59 60.0	55.4	62.3	58.5	62.2	57.4	59.30	30.4826	30.4933	- -
	60	Nadir	- -	59.9	55.1	62.5	58.9	62.3	57.1	59.30	- - -	- - -	- -
	61	Iris	- -	48 34 60.0	55.2	61.9	58.8	63.9	57.6	59.57	31.5750	- - -	30.036

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	B.	
2	64.8	58.0	64.0	- -	+ 1 39.97	+ 1 18.44	73 33 2.41	−14 39 23.16	- - -		Not corrected for Parallax; the correction to be applied is $\Delta\delta = +4''.94$.
3	64.5	57.8	64.0	- -	+ 1 26.61	+ 1 17.51	73 12 47.92	−14 19 8.67	+11.99		
4	64.5	57.8	64.0	63.5	− 1 47.20	+ 1 17.36	73 9 33.93	−14 15 54.68	+11.86		
5	62.3	56.3	62.5	62.0	+ 1 10.64	+ 1 21.68	76 32 36.49	−17 38 57.24	- - -		
6	62.0	56.0	- -	62.0	+ 3.49	+ 51.90	63 5 58.79	− 4 12 19.54	- - -		
7	- -	- -	- -	66.8	- - -	- - -	- - - -	- - - -	- - -		
8	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
9	67.8	65.2	- -	66.0	− 34.08	+ 1 16.95	73 35 46.82	−14 42 7.57	- - -		
10	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
11	67.8	65.0	- -	- -	+ 1 29.69	+ 53.39	63 12 25.13	− 4 18 45.88	- - -		
12	67.8	64.5	68.0	66.0	− 1 44.17	+ 1 15.85	73 9 33.73	−14 15 54.48	+11.84		
13	67.0	63.4	- -	66.0	− 23.67	+ 1 20.08	76 36 0.58	−17 42 21.33	- - -		
14	67.0	63.0	67.0	- -	− 5.82	+ 50.79	63 5 47.17	− 4 12 7.92	- - -		
15	71.5	70.5	71.5	70.5	− 33.04	+ 1 15.78	73 35 45.57	−14 42 6.32	- - -		
16	72.0	71.0	72.0	70.0	+ 6 55.06	+ 1 14.90	73 18 11.86	−14 24 32.61	- - -		
17	72.0	71.0	72.0	70.0	− 1 41.97	+ 1 14.51	73 9 34.44	−14 15 55.19	+11.81		
18	- -	- -	72.0	70.0	- - -	- - -	- - - -	- - - -	- - -		
19	77.4	72.5	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
20	75.2	69.2	- -	- -	− 2 37.36	+ 1 1.60	67 43 26.77	− 8 49 47.52	+14.25		
21	74.2	68.4	- -	- -	− 12.00	+ 1 16.98	73 56 6.76	−15 2 27.51	- - -		Not corrected for Parallax; the correction to be applied is $\Delta\delta = +4''.80$.
22	73.0	66.4	- -	- -	− 2 37.35	+ 1 20.19	76 53 44.31	−18 0 5.06	- - -		
23	78.5	72.6	79.5	78.5	− 1 34.11	+ 1 17.99	74 29 43.38	−15 36 4.13	- - -		Not corrected for Parallax; the correction to be applied is $\Delta\delta = +4''.60$.
24	- -	- -	78.0	78.5	- - -	- - -	- - - -	- - - -	- - -		
25	76.0	71.2	77.5	78.0	− 1 54.95	+ 1 21.24	77 24 26.56	−18 30 47.31	- - -		
26	73.5	67.8	74.3	73.6	+ 2 49.56	−59 36.16	81 36 21.49	−22 42 42.24	- - -		Perfectly steady.
27	- -	- -	72.2	72.8	- - -	- - -	- - - -	- - - -	- - -		Sept. 4 to Dec. 26, $r. = 62''.807$.
28	-	- -	66.2	68.0	- - -	- - -	- - - -	- - - -	- - -		
29	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
30	60.4	49.3	62.0	62.0	+ 1 14.66	+ 25.88	46 51 40.31	+12 1 58.94	- - -		Misty and unsteady. *Bad night.*
31	- -	- -	69.5	70.5	- - -	- - -	- - - -	- - - -	- - -		
32	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
33	- -	- -	64.0	67.0	- - -	- - -	- - - -	- - - -	- -		
34	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		Micrometer D. badly illuminated.
35	64.0	60.0	62.5	66.0	− 1 6.88	+ 25.41	47 39 17.67	+11 14 21.58	- - -		
36	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
37	63.5	59.5	63.5	- -	+ 1 54.89	+ 35.41	51 57 30.97	+ 6 56 8.28	−36.21		
38	- -	- -	60.0	62.2	- - -	- - -	- - - -	- - - -	- - -		
39	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
40	61.2	53.8	- -	62.4	+ 15.39	+ 26.58	48 5 42.04	+10 47 57.21	- - -		
41	60.9	53.8	60.0	62.2	− 9.47	+ 34.69	52 15 26.60	+ 6 38 12.65	- - -		Misty. At times almost invisible.
42	- -	- -	56.8	60.0	- - -	- - -	- - - -	- - - -	- - -		
43	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
44	55.4	47.5	55.2	58.0	+ 2 10.27	+ 27.18	48 12 38.82	+10 41 0.43	- - -		
45	55.0	47.3	- -	58.0	+ 4 3.01	+ 31.62	48 14 35.95	+10 39 3.30	- - -		
46	63.5	63.6	64.5	64.0	− 10.76	− 1 14.42	327 23 36.65	+88 30 57.40	−24.42		Faint and unsteady.
47	63.9	56.1	62.0	63.0	− 1 35.87	−63 36.91	80 36 22.22	−21 42 42.97	- - -		
48	- -	- -	61.0	62.5	- - -	- - -	- - - -	- - - -	- - -		
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		Micrometer D. badly illuminated.
50	61.0	51.0	59.0	62.0	− 5 54.52	+ 31.21	48 14 37.36	+10 39 1.89	- - -		Sept. 4 to Dec. 26, $r. = 62''.807$.
51	65.9	59.1	64.0	66.0	− 2 2.26	−60 51.45	79 22 7.66	−20 28 28.41	- - -		
52	- -	- -	61.0	63.0	- - -	- - -	- - - -	- - - -	- - -		
53	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
54	62.2	54.0	60.5	62.5	+ 1 34.21	+ 26.66	48 27 1.02	+10 26 38.23	- - -		
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	62.2	54.0	62.0	63.0	− 5 53.21	+ 30.82	48 14 36.98	+10 39 2.27	- - -		
57	62.2	54.5	62.0	63.0	− 58.47	+ 34.57	52 29 35.78	+ 6 24 3.47	- - -		
58	65.0	56.2	61.0	64.0	− 1 7.91	−59 23.66	77 9 28.23	−18 15 48.98	- - -		
59	- -	- -	62.0	64.0	- - -	- - -	- - - -	- - - -	- - -		
60	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
61	61.8	55.0	- -	63.0	− 1 7.83	+ 26.86	48 34 18.60	+10 19 20.65	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
Oct. 6	1	Nadir	-	199 59 59.6	52.3	61.0	57.3	60.9	56.0	57.85	30.4712	30.5007	- -
	2	Nadir	- -	59.6	53.0	61.1	56.8	62.0	56.3	58.13	- - -	- - -	- -
	3	β Aquilæ	- -	52 49 59.8	54.4	62.1	56.9	64.2	56.5	58.98	30.0472	- - -	30.216
	4	λ Ursæ Minoris	- -	330 0 66.0	60.1	71.0	63.1	69.2	61.3	65.12	28.1240	- - -	30.220
	5	B. A. C., 7458	-	90 44 60.0	55.3	62.2	57.9	62.1	55.5	58.83	31.5794	- - -	30.226
	6	ε Pegasi	- -	49 39 60.0	55.8	63.0	60.0	65.0	58.9	60.45	28.4348	- - -	30.232
	7	B. A. C., 7714	- -	92 9 60.1	56.6	64.2	59.5	64.0	56.1	60.08	33.1548	- - -	30.234
	8	Neptune	- -	68 39 63.8	61.4	68.0	64.3	69.4	61.2	64.68	32.0306	- - -	30.238
	9	Nadir	- -	199 59 60.1	56.7	63.5	61.4	61.9	57.9	60.25	30.4896	30.4820	- -
	10	Nadir	- -	60.5	56.8	64.0	61.1	62.6	57.5	60.42	- - -	- - -	- -
	11	Iris	- -	48 49 59.9	56.1	63.1	60.1	64.2	57.4	60.13	31.7044	- - -	30.242
	12	Anonymous	- -	48 49 59.8	56.1	62.8	59.9	64.5	57.6	60.12	34.6243	- - -	30.242
	13	Hygea	- -	52 44 59.6	55.4	62.3	61.1	63.5	57.0	59.82	32.2800	- - -	30.236
8	14	ε Pegasi	- -	49 39 60.0	55.1	61.2	57.2	65.5	58.5	59.58	28.4350	- - -	30.280
	15	α Aquarii	- -	59 54 59.8	54.4	61.5	58.1	64.2	57.4	59.23	30.4256	- - -	30.283
	16	Neptune	- -	68 39 60.5	56.5	63.8	59.4	66.5	57.6	62.38	31.0707	- - -	30.290
	17	Nadir	- -	199 59 60.0	55.0	62.8	58.4	63.5	57.2	59.48	30.5007	30.5013	- -
	18	Nadir	- -	60.2	56.4	62.9	58.9	64.8	57.7	60.15	- - -	- - -	- -
	19	Iris	- -	49 4 60.0	55.3	63.3	57.3	65.7	58.4	60.00	31.5860	- - -	30.296
	20	Anonymous	- -	52 54 59.8	54.9	62.9	57.1	63.8	55.6	59.02	30.0000	- - -	30.292
	21	Moon, S.	- -	62 44 59.8	56.8	62.9	59.0	65.8	57.0	60.22	30.1360	- - -	30.290
	22	Nadir	- -	199 59 59.5	53.1	61.7	58.2	60.7	57.8	58.50	30.4920	30.5135	- -
9	23	β Lyræ	- -	25 39 60.1	54.5	61.4	53.9	63.9	56.3	58.35	28.9386	- - -	30.276
	24	B. A. C., 6521	- -	86 44 60.0	54.8	61.0	55.0	64.1	58.0	58.82	31.0487	- - -	30.276
	25	B. A. C., 6727	- -	82 39 59.6	54.0	60.1	53.5	63.2	55.3	57.62	32.9258	- - -	30.280
	26	β Aquilæ	-	52 49 59.6	54.3	62.0	54.9	65.2	57.6	58.93	30.0344	- - -	30.280
	27	B. A. C., 7475	- -	93 29 59.9	55.0	60.5	55.5	63.8	57.2	58.65	34.0752	- - -	30.270
	28	B. A. C., 7714	- -	92 9 60.2	55.1	61.5	56.5	64.3	57.0	59.10	33.1110	- - -	30.268
	29	B. A. C., 7750	- -	87 24 59.8	54.2	61.0	55.3	64.0	56.6	58.48	33.9050	- - -	30.267
	30	Neptune	- -	68 39 59.8	56.3	63.2	56.5	66.5	57.5	59.97	30.6850	- - -	30.274
	31	Nadir	- -	199 59 60.0	53.4	62.2	57.0	62.0	58.2	58.80	30.5084	30.5209	- -
	32	Nadir	- -	60.0	55.0	63.0	56.1	63.9	58.1	59.35	- - -	- - -	- -
	33	Iris	- -	49 9 60.0	56.5	62.1	57.9	66.2	59.9	60.10	29.0980	- - -	30.284
10	34	α^2 Capricorni	- -	71 54 59.8	55.1	62.0	57.0	65.0	57.5	59.40	32.9550	- - -	30.150
	35	Nadir	- -	199 59 60.1	56.1	62.8	59.8	63.0	58.9	60.12	30.4871	30.4848	- -
	36	Neptune	- -	68 39 60.0	56.6	64.1	59.3	64.3	58.7	60.50	30.2870	30.4905	30.138
	37	Nadir	- -	199 59 59.8	55.4	62.9	59.8	61.9	58.5	59.72	30.4932	30.4962	- -
	38	Nadir	- -	59.6	55.5	62.5	59.4	62.5	58.1	59.60	- - -	- - -	- -
	39	Iris	- -	49 19 59.8	55.3	62.7	57.8	65.6	57.9	59.85	31.3204	- - -	30.136
	40	Anonymous	- -	52 59 59.8	56.0	61.9	57.2	65.0	57.0	59.48	34.7844	- - -	30.134
11	41	B. A. C., 6727	- -	82 39 59.0	54.2	60.5	55.0	61.9	54.2	57.47	32.9058	- - -	30.060
	42	α^2 Capricorni	- -	71 54 59.9	55.0	61.9	56.4	64.5	57.0	59.12	32.9323	- - -	30.058
	43	α Cygni	- -	14 9 60.2	57.0	62.9	56.5	64.3	55.9	59.47	32.1206	- - -	30.060
	44	Nadir	- -	199 59 60.0	54.4	61.8	58.5	62.1	58.8	59.27	30.4902	30.5001	- -
	45	Nadir	- -	60.0	54.8	61.5	57.9	62.4	58.5	59.18	- - -	- - -	- -
	46	Neptune	- -	68 39 60.0	56.0	63.0	58.4	65.6	58.8	60.30	29.8512	- - -	30.060
	47	α Piseis Australis	- -	89 19 59.6	55.3	61.5	55.2	63.2	56.2	58.50	34.6550	- - -	30.064
	48	Iris	- -	49 24 59.2	53.1	61.0	55.7	63.8	58.0	58.47	28.7740	- - -	30.064
13	49	Neptune	- -	68 39 59.4	55.5	63.1	57.3	65.5	57.2	59.67	29.1072	- - -	29.950
	50	Nadir	- -	199 59 60.0	55.0	62.2	57.6	63.9	58.4	59.52	30.5016	30.5069	- -
	51	Anonymous	- -	49 39 60.0	55.0	62.5	56.8	67.0	58.5	59.97	34.2406	- - -	29.963
	52	Anonymous	- -	53 9 59.2	54.2	61.0	54.5	65.1	55.5	58.25	26.9250	- - -	29.970
14	53	B. A. C., (6521)	- -	86 44 59.5	55.3	61.0	57.2	64.2	57.4	59.10	31.0628	- - -	29.966
	54	α Aquilæ	- -	50 24 60.1	55.0	61.9	57.0	65.0	58.5	59.58	31.3792	- - -	29.974
	55	Anonymous	- -	7 49 60.0	57.0	62.8	56.9	65.6	57.5	59.97	30.5620	- - -	29.970
	56	Nadir	- -	199 59 60.1	54.9	62.8	57.5	63.0	58.0	59.38	30.4958	30.5034	- -
	57	Neptune	- -	68 39 59.8	58.0	64.1	61.5	66.3	58.8	61.42	28.7674	- - -	30.010
	58	Anonymous	- -	49 39 60.2	57.5	64.8	59.1	67.2	59.1	61.32	30.5588	- - -	30.019
15	59	ε Pegasi	- -	49 39 60.0	57.1	62.0	59.1	66.8	59.5	60.75	29.4550	- - -	30.218
	60	Neptune	- -	68 39 59.9	58.2	63.9	62.0	65.5	58.0	61.25	28.4274	- - -	30.224
	61	Nadir	- -	199 59 59.8	56.5	63.1	60.9	62.8	58.2	60.22	30.5070	30.5013	- -
	62	ι Piscium	- -	54 4 59.8	58.0	62.8	60.4	64.5	56.5	60.33	30.9036	- - -	30.246
	63	Anonymous	- -	49 54 59.0	58.0	63.5	59.4	66.2	58.1	60.70	30.6630	- - -	30.248
16	64	B. A. C., (7458)	- -	90 44 59.8	56.9	60.9	59.5	60.5	55.8	59.07	31.6258	- - -	30.269
	65	α Aquarii	- -	59 54 60.0	58.0	64.1	61.8	64.0	58.6	61.08	30.4606	- - -	30.254
	66	Neptune	- -	68 44 60.0	59.5	65.5	63.2	65.6	58.1	61.98	32.8424	- - -	30.250

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	63.5	66.0	- - -	- - -	- - - -	- - - -	- - -	B.*	
2	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
3	64.0	56.0	62.0	64.0	+ 28.51	+ 37.39	52 51 4.88	+ 6 2 34.37	−24.55		Unsteady.
4	61.9	54.5	61.0	63.0	+ 2 29.36	− 1 9.03	330 2 25.45	+88 51 13.80	−35.96		
5	59.5	52.3	58.5	62.0	− 1 7.65	+ 2 45.50	90 46 36.68	−31 52 57.43	−22.44		[error.
6	59.5	51.8	58.0	61.5	+ 2 9.93	+ 33.34	49 42 43.72	+ 9 10 55.53	−35.08		Unsteady. Mic. reading supposed 1′ in
7	59.3	51.4	58.0	60.5	− 2 46.61	+ 2 59.38	92 10 12.85	−33 16 33.60	−25.84		Unsteady.
8	59.0	50.9	58.0	60.0	− 1 36.07	+ 1 6.24	68 39 34.85	− 9 45 55.60	- - -		
9	- -	- -	58.0	60.0	- - -	- - -	- - - -	- - - -	- - -		
10	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
11	59.1	50.0	60.0	61.0	− 1 16.77	+ 27.85	48 49 11.21	+10 4 28.04	- - -		
12	59.2	50.0	58.0	60.0	− 4 20.11	+ 32.21	48 46 12.22	+10 7 27.03	- - -		
13	58.8	49.3	- -	59.9	− 1 52.76	+ 35.81	52 43 42.87	+ 6 9 56.38	- - -		
14	62.6	57.4	61.0	63.0	+ 2 9.96	+ 33.03	49 42 42.57	+ 9 10 56.68	−35.16		Mic. reading supposed 1′ in error.
15	62.0	56.2	60.0	62.2	+ 4.93	+ 48.55	59 55 52.71	− 1 2 13.46	−33.91		
16	61.3	55.3	60.0	63.0	− 35.72	+ 1 5.81	68 40 32.47	− 9 46 53.22	- - -		
17	- -	- -	60.0	63.0	- - -	- - -	- - - -	- - - -	- - -		
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
19	61.5	53.4	61.5	62.0	− 1 7.27	+ 27.97	49 4 20.70	+ 9 49 18.55	- - -		
20	61.2	52.5	60.5	61.5	+ 32.25	+ 37.87	52 56 9.14	− 5 57 30.11	- - -		
21	60.8	51.8	59.0	60.5	+ 23.80	−50 23.18	61 55 0.84	− 3 1 21.59	- - -		
22	- -	- -	59.0	61.0	- - -	- - -	- - - -	- - - -	- - -		
23	68.0	68.0	68.0	68.0	+ 1 39.34	+ 5.66	25 41 43.35	+33 11 55.90	−25.17		
24	68.0	68.0	68.0	68.0	− 33.12	+ 2 11.12	86 46 36.82	−27 52 57.57	− 8.09		
25	67.8	65.0	66.0	66.8	− 2 31.10	+ 1 49.71	82 39 16.23	−23 45 36.98	−13.42		
26	67.8	63.5	66.0	67.0	+ 30.58	+ 36.92	52 51 6.43	+ 6 2 32.82	−24.53		
27	65.0	58.2	62.2	64.5	− 3 43.20	+ 3 11.79	93 29 27.24	−34 35 47.99	−21.60		
28	64.0	57.0	62.2	64.0	− 2 42.62	+ 2 57.41	92 10 13.89	−33 16 34.64	−25.42		
29	63.5	56.5	62.0	64.0	− 3 32.61	+ 2 18.09	87 23 43.96	−28 30 4.71	−27.10		
30	63.5	55.8	62.0	63.0	− 10.31	+ 1 5.72	68 40 55.38	− 9 47 16.13	- - -		
31	- -	- -	62.0	- -	- - -	- - -	- - - -	- - - -	- - -		
32	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
33	63.0	53.0	61.5	62.5	+ 1 29.43	+ 28.14	49 11 57.67	+ 9 41 41.58	- - -		
34	64.8	58.0	63.0	64.5	− 2 34.82	+ 1 13.25	71 53 37.83	−12 59 58.58	−21.37		Unsteady.
35	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
36	61.2	53.5	63.0	64.0	+ 12.95	+ 1 5.74	68 41 19.19	− 9 47 39.94	- -		
37	- -	- -	63.0	- -	- - -	- - -	- - - -	- - - -	- - -		
38	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
39	61.0	58.8	- -	62.5	− 51.95	+ 27.80	49 19 35.70	+ 9 34 3.55	- - -		Unsteady.
40	60.7	52.8	- -	62.0	− 4 29.74	+ 35.71	52 56 5.45	+ 5 57 33.80	- - -		
41	65.5	63.5	64.5	65.0	− 2 31.16	+ 1 49.24	82 39 15.55	−23 45 36.30	−13.34		
42	65.2	61.0	64.0	65.5	− 2 32.81	+ 1 12.61	71 53 38.92	−12 59 59.67	−21.33		
43	64.9	60.6	64.0	65.5	− 1 41.71	− 5.87	14 8 11.89	+44 45 27.36	−38.48		
44	- -	- -	- -	64.5	- - -	- - -	- - - -	- - - -	- - -		
45	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
46	64.2	60.2	63.5	65.0	+ 40.69	+ 1 4.73	68 41 45.72	− 9 48 6.47	- - -		
47	64.1	59.9	63.0	65.0	− 4 20.91	+ 2 29.89	89 18 7.48	−30 24 28.23	−29.02		
48	63.8	59.4	62.0	64.0	+ 1 48.38	+ 27.86	49 27 14.71	+ 9 26 24.54	- - -		
49	64.5	57.2	63.0	- -	+ 1 27.98	+ 1 4.89	68 42 32.54	− 9 48 53.29	- - -		Sept. 4 to Dec. 26, $r. = 62''.807$.
50	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
51	63.5	55.3	- -	64.0	− 3 54.36	+ 28.21	49 36 33.82	+ 9 17 5.43	- - -		Recorded as Iris.
52	63.5	55.2	62.0	- -	+ 3 44.93	+ 35.74	53 14 18.92	+ 5 39 20.33	- - -		Recorded as Hygea.
53	66.0	61.0	64.0	65.8	− 35.10	+ 2 11.55	86 46 35.55	−27 52 56.30	− 8.00		
54	64.6	58.5	62.2	65.0	− 54.83	+ 33.55	50 24 38.30	+ 8 29 0.95	−26.29		
55	63.6	56.2	62.0	64.0	− 3.57	− 12.57	7 49 43.83	+51 3 55.42	- - -		
56	- -	- -	62.0	64.0	- - -	- - -	- - - -	- - - -	- - -		
57	66.2	54.0	61.0	63.0	+ 1 49.00	+ 1 5.43	68 42 55.85	− 9 49 16.60	- - -		Register out of order.
58	59.0	52.3	60.0	61.5	− 3.37	+ 28.57	49 40 26.52	+ 9 13 12.73	- - -		Recorded as Iris.
59	61.0	51.3	58.0	60.0	+ 1 5.89	+ 33.33	49 41 39.97	+ 9 11 59.28	−35.30		Very unsteady. E. clock fast of Chro. $1^s.6$.
60	58.6	49.4	56.5	60.6	+ 2 10.44	+ 1 6.55	68 43 18.24	− 9 49 38.99	- - -		Unsteady. Fillet out of order.
61	- -	- -	56.5	- -	- - -	- - -	- - - -	- - - -	- - -		
62	57.8	47.5	59.5	- -	− 25.32	+ 39.90	54 5 14.91	+ 4 48 24.34	−36.70		Unsteady. Observ'n but of little value.
63	57.8	47.4	56.0	58.0	− 10.11	+ 29.48	49 55 20.07	+ 8 58 19.18	- - -		Unsteady. Recorded as Iris.
64	55.5	46.5	52.5	56.0	− 1 11.51	+ 2 47.69	90 46 35.25	−31 52 56.00	−21.38		Very unsteady.
65	53.2	45.0	53.0	65.0	+ 1.77	+ 49.58	59 55 52.43	− 1 2 13.18	−33.75		
66	51.4	44.4	- -	55.0	− 2 28.05	+ 1 7.33	68 43 41.26	− 9 50 2.01	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
Oct. 16	1	Nadir	- -	199 59 60.0	57.1	64.8	62.5	62.8	58.3	61.08	30.5056	30.4861	- -
	2	Iris	- -	50 4 59.5	59.0	64.9	62.0	65.5	57.5	61.40	30.7486	- - -	30.248
17	3	B. A. C. (6521)	- -	86 44 61.0	57.1	63.8	59.4	65.8	59.5	61.10	31.1198	- - -	30.190
	4	B. A. C. (6727)	- -	82 39 60.0	56.0	61.7	56.8	65.0	55.8	59.22	32.9546	- - -	30.182
	5	Neptune	- -	68 44 60.0	57.0	64.1	60.6	66.0	58.5	61.03	32.4716	- - -	30.180
	6	Nadir	- -	199 59 60.1	57.0	64.2	60.0	64.1	58.0	60.57	30.5096	30.4983	- -
	7	B. A. C. 8196	- -	80 59 59.8	57.1	62.0	57.5	63.5	56.5	59.40	34.3940	- - -	30.184
27	8	Nadir	- -	199 59 60.5	58.5	65.5	64.1	64.0	59.5	62.02	30.5466	30.5108	- -
	9	Nadir	- -	60.8	59.5	65.8	64.2	64.1	59.1	62.25	- - -	- - -	- -
	10	Neptune	- -	68 44 60.0	62.7	68.4	66.5	68.8	59.1	64.25	29.7675	- - -	30.000
	11	Iris	- -	51 14 60.0	63.0	67.2	65.5	67.9	58.9	63.75	24.8522	- - -	30.000
Nov. 6	12	Neptune	- -	68 44 60.0	63.0	67.5	67.1	67.2	58.3	63.85	27.9712	- - -	30.137
	13	Nadir	- -	199 59 60.0	61.8	67.6	66.5	65.0	57.0	62.98	30.5620	30.5125	- -
	14	B. A. C. 7458	- -	90 44 60.0	61.3	65.4	62.1	65.2	55.2	61.62	30.7414	- - -	30.142
7	15	Nadir	- -	199 59 60.0	59.0	63.9	62.9	64.3	57.1	61.20	30.5551	30.5327	- -
	16	Nadir	- -	60.0	59.0	64.2	63.0	64.2	57.8	61.37	- - -	- - -	- -
	17	Neptune	- -	68 44 59.8	60.0	65.6	63.1	67.1	57.2	62.13	27.8450	- - -	30.226
	18	Neptune	- -	59.7	61.7	65.0	62.3	66.0	58.0	62.00	- - -	- - -	- -
	19	ι Piscium	- -	54 4 59.9	61.2	63.3	63.5	62.5	56.0	61.07	32.3980	- - -	30.232
	20	Weisse XXIII. 899	- -	52 14 59.5	59.0	65.2	65.0	64.0	58.5	61.87	23.6940	- - -	30.224
	21	β Ceti	- -	77 39 62.0	65.5	70.3	70.5	69.5	65.5	67.22	30.6686	- - -	30.230
	22										31.9050	- - -	- -
	23										31.9050	- - -	- -
	24	Polaris	I to V	330 24 59.5	65.2	68.0	69.0	56.5	59.5	62.95	31.9190	- - -	30.232
	25										31.9180	- - -	- -
	26										31.9120	- - -	- -
11	27	Nadir	- -	199 59 60.1	57.4	65.9	61.5	64.5	58.0	61.23	30.5777	30.5565	- -
	28	B. A. C. (7458)	- -	90 44 60.5	60.8	66.0	61.0	66.2	56.0	61.75	31.7436	- - -	30.633
	29	B. A. C. (7475)	- -	93 29 60.8	61.8	65.2	63.8	67.8	57.9	62.88	34.3228	- - -	30.633
	30	Neptune	- -	68 44 60.0	62.0	68.0	65.5	68.3	57.9	63.62	27.5700	- - -	30.650
	31	Anonymous	- -	52 29 60.0	61.0	66.5	63.9	66.3	57.5	62.53	28.4780	- - -	30.669
	32	Anonymous	- -	52 29 60.0	61.1	66.5	63.9	66.3	57.5	62.55	28.2232	- - -	30.669
	33	Lalande 4238	- -	41 9 59.1	60.0	65.9	63.3	64.8	59.0	62.02	33.1490	- - -	30.684
	34	Nadir	- -	199 59 60.1	62.5	67.2	66.0	64.1	59.0	63.15	30.5989	30.5473	- -
	35	B. A. C. 7714	- -	92 9 60.9	69.3	68.0	55.5	66.5	58.3	63.08	33.4256	- - -	30.640
	36	α Cassiopeæ	- -	3 9 60.0	67.0	69.0	67.5	68.2	61.8	65.58	30.5440	- - -	30.664
	37	Nadir	- -	199 59 60.1	62.5	67.2	66.0	64.1	59.0	63.15	- - -	- - -	30.684
17	38	ζ Cygni	- -	29 14 60.2	58.6	65.7	61.4	66.1	58.5	61.75	29.6450	30.5746	30.180
	39	B. A. C. 7458	- -	90 44 60.3	58.9	65.0	59.3	65.6	56.5	60.93	31.7150	- - -	30.180
	40	ε Pegasi	- -	49 39 60.5	59.1	65.3	61.0	67.9	60.8	62.43	29.5584	- - -	30.180
	41	B. A. C. 7714	- -	92 9 60.8	61.0	65.9	63.4	65.9	58.8	62.63	33.2872	- - -	30.189
	42	Neptune	- -	68 49 60.3	59.4	66.8	65.2	65.8	58.2	62.62	32.1838	- - -	30.191
	43	α Piscis Australis	- -	89 14 60.3	60.9	64.8	61.5	65.0	57.5	61.67	30.0396	- - -	30.190
	44	Nadir	- -	199 59 60.0	59.6	64.4	64.0	64.5	58.4	61.82	30.6085	30.5746	- -
	45	Nadir	- -	60.2	60.1	64.6	64.5	65.4	58.8	62.27	- - -	- - -	- -
	46	Iris	- -	52 44 60.0	60.1	65.3	64.9	66.0	58.8	62.52	30.2450	- - -	30.196
	47	Anonymous	- -	52 44 60.0	60.1	65.3	64.9	66.0	58.8	62.52	35.8520	- - -	30.196
21	48	B. A. C. (7458)	- -	90 44 60.0	58.2	63.0	60.5	65.5	56.1	60.55	31.6528	- - -	- -
	49	B. A. C. (7475)	- -	93 29 60.0	58.2	63.1	60.5	65.5	57.0	60.72	34.1772	- - -	29.540
	50	B. A. C. (7714)	- -	92 9 60.0	58.8	64.9	62.2	66.5	57.1	61.58	33.2270	- - -	29.550
	51	B. A. C. (7750)	- -	87 24 60.0	59.1	63.1	62.0	66.4	58.1	61.45	34.0210	- - -	29.550
	52	Neptune	- -	68 44 60.0	59.5	65.4	62.8	67.7	58.1	62.25	27.5208	- - -	29.556
	53	Anonymous	- -	68 44 60.0	59.5	65.4	62.8	67.7	58.1	62.25	27.5250	- - -	29.559
	54	Nadir	- -	199 59 60.0	58.9	64.9	64.5	64.2	59.1	61.93	30.6256	30.5947	- -
22	55	Nadir	- -	60.0	58.9	64.3	63.8	64.8	59.1	61.82	- - -	- - -	- -
	56	α Piscis Australis	- -	89 19 60.0	62.5	63.7	60.7	64.5	56.5	61.32	34.9694	- - -	29.997
	57	α Andromedæ	- -	30 37 60.3	60.4	62.0	63.7	64.2	57.7	61.38	29.9084	- - -	30.015
	58	γ Pegasi	- -	44 29 58.9	65.0	68.0	63.3	65.5	56.8	62.92	31.3374	- - -	30.015
	59	α Cassiopeæ	- -	3 9 59.5	65.3	68.0	65.0	65.3	61.5	64.10	30.4850	- - -	30.015
	60	B. A. C. (7458)	- -	90 44 60.0	58.9	65.0	61.2	65.1	56.8	61.17	31.7106	- - -	29.097
	61	B. A. C. (7475)	- -	93 29 60.0	59.1	62.5	63.0	65.3	58.5	61.40	34.2150	- - -	29.970
	62	B. A. C. (7714)	- -	92 9 61.1	60.1	65.1	64.0	65.1	58.0	62.23	33.2816	- - -	29.970
	63	B. A. C. (7714)	- -	60.3	60.7	65.5	65.3	63.5	59.5	62.47	- - -	- - -	
	64	B. A. C. (7750)	- -	87 24 61.0	60.2	65.1	63.5	67.6	59.0	62.73	34.0650	- - -	29.986
	65	Neptune	- -	68 44 60.2	60.7	66.5	63.5	64.5	59.0	62.40	27.6364	- - -	29.997
	66	Neptune	- -	59.3	59.5	65.5	64.1	66.0	57.9	62.05	- - -	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	54.0	- - -	- - -	- - - -	- - - -	- - -	B.	
2	54.2	42.3	54.0	53.0	— 16.51	+ 30.06	50 5 14.95	+ 8 48 24.30	- - -		
3	63.2	60.5	- -	- -	— 38.96	+ 2 12.69	86 46 34.83	—27 52 55.58	— 7.96		
4	62.5	58.5	60.0	62.5	— 2 34.32	+ 1 50.77	82 39 15.67	—23 45 36.42	—13.14		
5	58.5	51.5	57.0	59.5	— 2 3.78	+ 1 6.20	68 44 3.45	— 9 50 24.20	- - -		
6	- -	- -	- -	60.0	- - -	- - -	- - - -	- - - -	- - -		
7	58.5	49.0	58.0	59.5	— 4 4.51	+ 1 45.23	80 57 40.12	—22 4 0.87	—31.20		
8	- -	- -	49.5	48.0	- - -	- - -	- - - -	- - - -	- - -		
9	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
10	47.0	34.9	49.5	48.0	+ 46.65	+ 1 8.23	68 46 59.13	— 9 53 19.88	- - -		
11	45.0	32.5	48.0	46.0	+ 5 55.35	+ 32.23	51 21 31.33	+ 7 32 7.92	- - -		
12	40.0	44.5	42.5	46.0	+ 2 39.59	+ 1 7.34	68 48 50.78	— 9 55 11.53	- - -	C.F.	
13	- -	- -	42.0	46.0	- - -	- - -	- - - -	- - - -	- - -		
14	45.0	35.0	48.0	48.0	— 1 17.20	+ 2 51.08	90 46 35.50	—31 52 56.25	—19.62		Blurred and very unsteady. Micrometer probably 31r.7414.
15	- -	- -	46.0	50.0	- - -	- - -	- - - -	- - - -	- - -	B.	
16	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
17	46.0	34.0	44.5	48.0	+ 2 48.75	+ 1 8.96	68 48 59.87	— 9 55 20.62	- - -	B.	
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	C.F.	
19	44.0	32.5	42.5	46.0	— 1 56.98	+ 41.10	54 3 45.19	+ 4 49 54.06	—36.46	C.F.	
20	44.5	32.0	42.3	46.7	+ 7 9.55	+ 38.59	52 22 50.01	+ 6 30 49.24	—37.68	B.	Extremely faint.
21	42.0	32.3	41.0	46.0	— 8.50	+ 1 35.88	77 41 34.60	—18 47 55.35	—30.70	C.F.	
22	- -	- -	- -	- -	— 1 26.63	- - -	- - - -	- - - -	- - -		
23	- -	- -	- -	- -	— 1 26.34	- - -	- - - -	- - - -	- - -		
24	41.0	34.0	42.0	45.9	— 1 27.12	— 1 11.22	330 22 24.86	+88 31 14.39	—38.31		
25	- -	- -	- -	- -	— 1 27.17	- - -	- - - -	- - - -	- - -		
26	- -	- -	- -	- -	— 1 27.11	- - -	- - - -	- - - -	- -		
27	- -	- -	52.2	52.0	- - -	- - -	- - - -	- - - -	- - -	B.	Mercury a little unsteady.
28	46.2	38.0	48.5	49.2	— 1 15.81	+ 2 52.79	90 46 38.73	—31 52 59.48	—19.34		
29	46.2	38.0	- -	48.5	— 3 56.51	+ 3 22.39	93 29 28.76	—34 35 49.51	—18.55		
30	45.1	36.5	44.5	47.0	+ 3 7.69	+ 1 9.60	68 49 20.91	— 9 55 41.66	- - -		
31	44.5	35.5	44.0	45.5	+ 2 10.71	+ 38.35	52 32 51.59	+ 6 20 47.66	- - -		
32	44.5	33.5	44.0	45.5	+ 2 26.69	+ 38.36	52 33 7.60	+ 6 20 31.65	- - -		
33	42.0	33.6	47.0	48.0	— 2 42.74	+ 23.81	41 7 43.09	+17 45 56.16	—30.90		
34	- -	- -	47.0	48.0	- - -	- - -	- - - -	- - - -	- -		
35	45.5	38.0	- -	- -	— 3 0.89	+ 3 7.84	92 10 10.03	—33 16 30.78	—21.70	C.F.	
36	43.3	35.0	- -	48.0	+ 0.33	— 18.58	3 9 47.33	+55 43 51.92	—43.59		
37	42.0	33.6	47.0	48.0	- - -	- - -	- - - -	- - - -	- - -		
38	52.2	44.3	50.0	53.0	+ 58.43	+ 9.67	29 16 9.85	+29 37 29.40	—38.21		
39	52.0	43.2	50.0	52.0	— 1 11.73	+ 2 48.35	90 46 37.55	—31 52 58.30	—19.12		
40	51.4	42.1	49.5	52.0	+ 1 3.94	+ 33.93	49 41 40.30	+ 9 11 58.95	—34.56		Extremely unsteady. [= 62″.807.
41	56.5	40.2	48.5	51.5	— 2 50.20	+ 3 3.24	92 10 15.67	—33 16 36.42	—21.26	B.	Very unsteady. Sept. 4 to Dec. 26, r.
42	49.2	38.3	47.0	50.0	— 1 40.96	+ 1 8.28	68 49 29.94	— 9 55 50.69	- - -		Unsteady.
43	48.8	37.8	47.0	49.5	+ 33.63	+ 2 37.45	89 18 12.75	—30 24 33.50	—24.17		Very unsteady.
44	- -	- -	47.0	49.0	- - -	- - -	- - - -	- - - -	- - -		
45	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
46	47.1	35.1	46.0	48.5	+ 20.85	+ 38.87	52 46 2.24	+ 6 7 37.01	- - -		Not corrected for Parallax.
47	47.1	35.1	46.0	48.5	— 5 31.53	+ 38.72	52 40 9.71	+ 6 13 29.54	- - -		
48	- -	- -	- -	- -	— 1 6.41	+ 2 44.80	90 46 38.94	—31 52 59.69	—18.90		Unsteady.
49	53.0	43.2	50.5	53.0	— 3 44.90	+ 3 13.04	93 29 28.86	—34 35 49.61	—18.26		Unsteady.
50	52.0	41.5	50.0	52.0	— 2 45.19	+ 2 58.97	92 10 15.36	—33 16 36.11	—21.01		Unsteady.
51	52.0	41.5	50.0	52.0	— 3 35.18	+ 2 19.01	87 23 45.28	—28 30 6.03	—22.80		Unsteady.
52	51.3	41.0	50.0	52.0	+ 3 13.21	+ 1 6.46	68 49 21.92	— 9 55 42.67	- - -		Unsteady.
53	51.3	41.0	50.0	52.0	+ 3 12.94	+ 1 6.68	68 49 21.87	— 9 55 42.62	- - -		Unsteady.
54	- -	- -	- -	50.0	- - -	- - -	- - - -	- - - -	- - -		
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	46.8	36.5	44.0	47.0	— 4 35.21	+ 2 36.88	89 18 2.99	—30 24 23.74	—23.80	C.F.	
57	43.3	34.0	43.0	46.0	+ 42.65	+ 11.33	30 38 55.36	+28 14 43.89	—42.60		
58	43.3	34.0	43.0	46.0	— 46.87	+ 27.43	44 29 43.48	+14 23 55.77	—39.06		
59	42.3	33.4	44.0	47.0	+ 6.63	— 18.24	3 9 52.49	+55 43 46.76	—45.70		
60	50.0	41.5	48.0	50.0	— 1 10.50	+ 2 47.81	90 46 38.48	—31 52 59.23	—18.97		
61	49.9	41.0	48.0	50.0	— 3 47.66	+ 3 16.74	93 29 30.48	—34 35 51.23	—18.22		
62	48.5	38.6	46.0	49.0	— 2 48.99	+ 3 2.65	92 10 16.01	—33 16 36.76	—20.96	B.	Remarkably steady. Good transit.
63	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	C.F.	
64	48.0	38.0	46.0	48.0	— 3 38.34	+ 2 22.11	87 23 46.50	—28 30 7.25	—22.78	B.	
65	46.8	36.5	46.0	47.5	+ 3 5.46	+ 1 8.10	68 49 15.79	— 9 55 36.54	- - -	C.F.	
66	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	B.	

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
Nov. 22	1	Nadir	- -	199 59 60.0	59.9	66.0	64.9	63.5	58.5	62.14	30.6228	30.5882	- -
	2	Nadir	- -	60.0	60.1	65.9	64.5	63.8	58.0	62.05	- - -	- - -	- -
	3	Polaris	I to V	330 24 61.0	63.0	69.0	66.7	67.0	57.5	64.03	32.0506	- - -	30.022
26	4	α Aquilæ	- -	50 24 58.5	63.0	64.3	64.2	65.3	61.6	62.82	31.5316	- - -	30.141
	5	Nadir	- -	199 59 60.7	62.5	62.7	64.3	65.5	56.5	62.03	30.6024	30.5715	30.205
	6	Nadir	- -	58.9	62.3	63.2	64.7	64.7	56.3	61.68	- - -	- - -	- -
	7	α Pegasi	- -	44 29 59.9	62.6	65.6	66.6	61.8	55.5	61.90	31.8770	- - -	30.205
	8	B. A. C., (8194)	- -	80 59 60.0	66.5	65.0	67.0	63.4	57.0	63.15	27.5060	- - -	30.215
	9	α Andromedæ	- -	30 34 59.7	61.7	66.6	65.2	65.5	57.3	62.67	28.6722	- -	30.216
	10	γ Pegasi	- -	44 29 59.9	60.5	63.0	67.5	60.5	50.0	60.23	28.9780	- - -	30.216
	11	β Ceti	-	77 39 59.7	62.3	67.7	66.5	67.5	59.2	63.82	20.7900	- - -	30.222
	12	Polaris	I to V	330 24 57.9	60.9	68.0	63.6	62.0	55.0	61.23	32.0284	- - -	30.215
	13	Polaris	- -	57.6	61.5	68.5	64.5	62.1	54.3	61.42	- - -	- - -	- -
	14	Nadir	- -	199 59 58.9	61.5	64.1	66.3	62.0	56.5	61.55	30.5935	30.5635	- -
	15	Nadir	- -	59 59.3	61.2	65.0	66.0	64.0	56.7	62.03	- - -	- - -	- -
27	16	Polaris	I to V	330 24 59.0	62.2	65.5	65.0	64.5	56.5	62.12	32.0870	- - -	29.734
	17	Nadir	- -	199 59 59.5	59.9	64.5	62.7	63.7	58.9	61.53	30.6915	30.5635	- -
	18	Nadir	- -	60.0	61.2	64.0	63.1	64.0	58.3	61.77	- - -	- - -	- -
	19	α Arietis	- -	36 09 58.0	57.5	57.5	60.0	60.1	55.0	58.02	32.6716	- - -	29.750
	20	ε Pegasi	- -	49 39 60.9	58.9	64.5	61.2	68.2	60.0	62.28	29.5680	30.5754	30.150
	21	B. A. C., (7714)	- -	92 09 60.0	59.5	65.0	61.2	66.3	56.2	61.37	33.2738	- - -	30.158
	22	B. A. C., 7750	- -	87 24 60.0	58.1	54.5	61.1	57.3	57.0	61.33	34.0425	- - -	30.158
	23	Neptune	- -	68 44 60.2	60.5	66.0	64.1	67.7	59.1	62.93	28.1354	- - -	30.156
	24	Nadir	- -	199 59 60.8	59.2	66.0	62.2	64.9	58.9	62.00	30.6220	30.5873	- -
	25	Nadir	- -	60.4	59.1	66.0	63.5	65.8	58.5	62.22	- - -	- - -	- -
28	26	B. A. C., (7714)	- -	92 09 59.8	55.0	56.0	58.0	56.3	50.8	55.98	33.2232	30.5613	30.050
	27	Anonymous	- -	68 44 55.2	57.0	61.3	60.0	60.0	53.1	57.77	28.5560	- - -	30.055
	28	α Piscis Australis	- -	89 19 66.0	64.0	70.0	65.0	65.0	61.3	65.22	24.4890	- - -	30.050
	29	B. A. C., (8194)	- -	80 59 55.0	60.3	61.3	59.0	61.5	52.3	58.23	27.6727	- - -	30.055
	30	Anonymous	- -	52 34 55.0	57.8	63.5	61.8	62.9	55.0	59.33	27.7862	- - -	30.052
	31	Nadir	- -	199 59 63.0	64.5	68.0	68.0	65.3	62.5	65.22	30.4452	- - -	-
29	32	Nadir	- -	62.5	64.1	70.0	67.3	66.0	61.5	65.23	- - -	- - -	- -
	33	B. A. C., 7714	- -	92 09 60.0	58.5	64.1	61.9	67.5	57.0	61.50	33.2028	30.5613	29.623
	34	B. A. C., 7750	- -	87 24 59.1	57.1	61.1	59.5	65.9	57.0	59.95	33.9666	- -	29.623
	35	Neptune	- -	68 44 60.0	58.5	64.7	61.5	66.7	58.2	61.60	28.2434	- - -	29.623
	36	Neptune	- -	59.5	59.9	64.0	63.3	64.2	58.3	61.53	- - -	- - -	-
	37	Anonymous	- -	68 44 60.0	58.5	64.7	61.5	66.6	58.2	61.58	27.5220	- - -	- -
Dec. 1	38	B. A. C., 8196	- -	80 54 60.0	60.1	64.2	63.0	65.8	57.9	61.83	29.7544	- - -	30.200
	39	Anonymous	- -	52 49 60.5	61.6	66.2	66.0	67.8	59.5	63.60	20.5343	- - -	30.198
	40	B. A. C., 8331	- -	52 49 60.5	61.6	66.2	66.0	67.8	59.5	63.60	30.2876	- - -	30.200
	41	Iris	- -	52 49 60.5	61.6	66.2	66.0	67.8	59.5	63.60	25.8975	- - -	30.200
	42	Polaris	I to V	330 24 60.8	61.2	69.0	64.5	66.2	56.7	63.07	32.3968	- - -	30.196
	43	Nadir	- -	199 59 59.8	61.3	65.8	66.0	63.5	56.7	62.19	30.6202	30.5834	- -
	44	Nadir	- -	59.5	61.4	66.4	65.5	63.9	57.0	62.28	- - -	- - -	- -
5	45	Neptune	- -	68 44 59.9	60.6	66.7	64.3	67.0	58.4	62.82	29.6252	- - -	30.392
	46	Anonymous	- -	68 44 60.5	60.9	67.0	64.1	67.8	58.0	63.05	27.5750	- - -	30.392
	47	Nadir	- -	199 59 60.0	61.7	65.8	65.4	64.6	58.3	62.63	30.6334	30.5921	- -
	48	Nadir	- -	59.9	61.5	66.0	64.8	64.3	58.0	62.42	- - -	- - -	- -
	49	η Ceti	- -	56 14 60.0	61.1	66.4	64.9	67.8	56.9	62.85	29.2966	- - -	30.472
	50	Moon, N.	- -	47 54 60.1	61.0	66.5	64.1	68.0	57.0	62.78	25.4848	- - -	30.480
	51	o Tauri	- -	50 24 60.0	62.0	66.8	64.9	68.0	58.8	63.42	32.7070	- - -	- -
6	52	β Ceti	- -	77 39 59.0	63.5	68.0	66.3	66.0	57.0	63.30	30.6250	- - -	30.550
	53	Polaris	I to V	330 24 60.0	63.0	69.0	66.3	65.0	67.3	65.10	32.1744	- - -	30.550
	54	Nadir	- -	199 59 61.0	65.3	70.0	70.3	64.2	59.0	64.97	30.7218	30.6418	- -
	55	Nadir	-	62.0	64.5	70.0	70.0	64.0	60.0	65.08	- - -	- - -	- -
10	56	B. A. C., 1181	- -	82 34 60.3	63.5	67.7	64.2	65.3	58.3	63.22	32.3476	- - -	29.843
	57	B. A. C., 1217	- -	83 54 60.7	64.5	68.5	66.0	67.5	61.5	64.78	30.7670	- - -	29.843
	58	B. A. C., 1422	- -	88 57 59.5	61.3	63.9	64.0	63.0	57.5	61.54	33.1212	- - -	29.851
	59	Nadir	-	199 59 60.8	63.5	67.5	64.2	65.8	62.0	63.97	30.6585	30.5976	- -
	60	Nadir	- -	60.5	63.0	66.7	65.0	64.5	61.8	63.59	- - -	- - -	- -
	61	β Orionis	- -	67 14 60.5	64.0	65.3	67.0	68.5	60.9	64.37	30.4654	- - -	29.857
	62	δ Orionis	- -	59 19 61.0	61.8	66.8	66.0	68.0	61.9	64.25	32.9446	- - -	29.855
	63	α Columbæ	- -	93 04 60.0	62.8	67.3	65.5	63.9	57.9	62.90	35.6948	- - -	29.855
	64	μ Geminorum	- -	36 19 59.4	61.0	66.9	62.8	66.0	57.5	62.27	32.2426	- - -	29.859
	65	α Canis Majoris	- -	75 24 59.5	63.3	70.0	64.8	69.9	59.3	64.47	32.5010	- - -	29.919
	66	ε Canis Majoris	- -	87 39 59.9	64.0	65.7	63.0	67.2	58.0	62.97	33.0190	- - -	29.919

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	48.0	- - -	- - -	- - - -	- - - -	- - -	B.	
2	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
3	42.0	33.5	41.0	44.5	− 1 31.82	− 1 10.79	330 22 21.42	+88 31 17.83	−43.21		
4	47.0	39.0	41.7	46.0	− 1 0.19	+ 35.11	50 24 37.74	+ 8 29 1.51	−23.18	C.F	
5	- -	- -	49.0	50.0	- - -	- - -	- - - -	- - - -	- - -		
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
7	45.0	31.3	45.0	44.4	− 1 22.05	+ 27.74	44 29 7.59	+14 24 31.66	−39.34		
8	43.0	31.0	44.0	44.0	+ 3 12.69	+ 1 49.92	81 5 5.76	−22 11 26.51	−27.23		
9	42.8	30.5	41.3	44.0	+ 1 59.32	+ 11.45	30 37 13.44	+28 16 25.81	−42.75		
10	42.8	30.5	42.0	44.0	+ 1 40.06	+ 27.87	44 32 8.16	+14 21 31.09	−39.02		
11	38.8	29.9	41.8	42.5	- - -	- - -	- - - -	- - - -	−28.23		
12	37.0	29.3	- -	- -	− 1 32.00	− 1 11.89	330 22 17.44	+88 31 21.81	−44.41		
13	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
14	- -	- -	44.0	46.0	- - -	- - -	- - - -	- - - -	- - -		
15	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
16	49.0	45.0	48.0	50.0	− 1 35.63	− 1 8.46	330 22 18.03	+88 31 21.22	−44.70		
17	- -	- -	- -	52.0	- - -	- - -	- - - -	- - - -	- - -		Mic. reading probably 30r.5915.
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
19	48.0	43.0	. .	- -	− 2 12.38	+ 16.94	36 8 2.58	+22 45 36.67	−33.12		
20	48.2	43.3	46.0	48.0	+ 1 3.38	+ 33.83	49 41 39.49	+ 9 11 59.76	−33.86	B.	
21	42.8	46.1	46.0	48.0	− 2 49.32	+ 3 1.11	92 10 13.16	−33 16 33.91	−20.72		
22	42.8	46.1	45.5	48.0	− 3 37.74	+ 2 20.69	87 23 44.28	−28 30 5.03	−22.52		
23	43.6	41.4	45.0	47.0	+ 2 34.08	+ 1 7.76	68 48 44.77	− 9 55 5.52	- - -		Sept. 4 to Dec. 26, $r.$ = 62″.807.
24	- -	47.8	45.0	47.0	- - -	- - -	- - - -	- - - -	- -		
25	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
26	46.0	- -	46.0	- -	− 2 47.04	+ 3 3.39	92 10 12.33	−33 16 33.08	−20.68	C.F.	
27	46.0	38.0	45.7	- -	+ 2 6.06	+ 1 7.96	68 48 11.79	− 9 54 32.54	- - -		
28	46.7	38.0	45.0	47.0	+ 6 21.54	+ 2 38.19	89 29 4.95	−30 35 25.70	−23.31		Mic. reading perhaps 10r. in error.
29	46.0	35.8	46.0	- -	+ 3 1.48	+ 1 48.22	81 4 47.93	−22 11 8.68	−27.03		
30	45.0	34.0	44.0	- -	+ 2 54.26	+ 38.60	52 38 32.19	+ 6 15 7.06	- - -		
31	- -	- -	46.2	46.0	- - -	- - -	- - - -	- - - -	- - -		Microm. reading probably erroneous,— probably 30r.6452.
32	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
33	51.0	47.8	- -	- -	− 2 45.79	+ 2 57.17	92 10 12.88	−33 16 33.63	−20.63	B.	Unsteady.
34	50.0	47.8	- -	51.5	− 3 33.92	+ 2 17.64	87 23 43.67	−28 30 4.42	−22.42		Unsteady.
35	50.0	47.5	50.0	51.1	+ 2 25.74	+ 1 5.73	68 48 33.03	− 9 54 53.78	- - -		
36	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
37	- -	- -	- -	- -	+ 3 11.05	+ 1 5.98	68 49 18.61	− 9 55 39.36	- -		
38	44.8	33.1	42.2	44.8	+ 52.04	+ 1 48.83	80 57 42.70	−22 4 3.45	−26.77		
39	43.3	32.0	- -	40.0	+10 31.56	+ 39.52	53 1 14.68	+ 5 52 24.57	- - -		Extremely unsteady.
40	42.7	31.5	- -	40.0	+ 18.75	+ 39.30	52 51 1.65	+ 6 2 37.60	−36.44		Extremely unsteady.
41	42.7	31.5	- -	40.0	+ 4 54.26	+ 39.42	52 55 37.28	+ 5 58 1.97	- - -		Extremely unsteady.
42	40.5	29.0	37.0	42.2	− 1 53.72	− 1 11.88	330 21 57.47	+88 31 41.78	−45.81		Unsteady.
43	- -	- -	- -	42.0	- - -	- - -	- - - -	- - - -	- - -		
44	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
45	44.5	37.0	42.0	45.5	+ 1 0.80	+ 1 8.85	68 47 12.47	− 9 53 33.22	- - -		
46	44.5	37.0	42.0	45.5	+ 3 9.61	+ 1 9.16	68 49 21.82	− 9 55 42.57	- - -		
47	- -	- -	- -	45.0	- - -	- - -	- - - -	- - - -	- - -		
48	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
49	40.0	31.9	40.0	42.0	+ 1 21.57	+ 44.04	56 17 8.46	+ 2 36 30.79	−28.63		
50	44.0	31.8	39.0	42.2	+ 5 20.99	−41 12.63	47 19 11.14	+11 34 28.11	- - -		
51	- -	- -	40.0	- -	− 2 12.83	+ 36.01	50 23 26.60	+ 8 30 12.65	−21.76		
52	38.0	32.0	40.0	41.0	+ 1.13	+ 1 37.04	77 41 41.47	−18 48 2.22	−27.02	C.F.	
53	36.0	30.0	- -	- -	− 1 36.16	− 1 12.60	330 22 16.34	+88 31 22.91	−47.11		The mic. reading is a mean of the different readings reduced to the meridian.
54	- -	- -	43.0	- -	- - -	- - -	- - - -	- - - -	- - -		
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	48.3	41.5	47.0	49.0	− 1 49.73	+ 1 53.06	82 35 6.55	−23 41 27.30	−13.75		
57	48.3	41.5	47.0	49.0	− 10.68	+ 1 59.88	83 56 53.98	−25 3 14.73	−12.84		
58	47.3	41.0	47.0	49.0	− 2 38.42	+ 2 32.04	88 57 55.26	−30 4 16.01	− 8.48		
59	- -	- -	50.0	- -	- - -	- - -	- - - -	- - - -	- - -		
60	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
61	46.9	40.0	46.0	47.8	+ 8.47	+ 1 3.94	67 16 16.78	− 8 22 37.53	− 5.50		
62	46.8	40.2	46.5	48.0	− 2 27.44	+ 48.37	59 18 25.18	− 0 24 45.93	− 3.21		
63	46.8	40.2	44.0	46.0	− 5 20.06	+ 3 11.09	93 2 53.93	−34 9 14.68	− 2.43		
64	43.8	40.0	43.8	46.5	− 1 43.16	+ 17.32	36 19 36.43	+22 34 2.82	+ 5.96		
65	44.0	38.0	43.0	46.0	− 1 59.39	+ 1 26.08	75 24 31.16	−16 30 51.91	+ 7.47		
66	44.0	38.5	43.0	45.0	− 2 32.06	+ 2 23.59	87 39 54.50	−28 46 15.25	+ 5.28		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
Dec. 10	1	B. A. C. 2393	- -	85 39 60.9	64.0	69.5	68.3	66.8	57.8	64.55	32.3030	- - -	29.910
	2	B. A. C. 2418	- -	83 34 66.5	64.5	68.8	69.0	65.0	58.7	65.42	32.8068	- - -	29.915
	3	B. A. C. 2557	- -	84 54 59.0	64.3	70.1	65.0	69.0	59.5	64.48	33.9620	30.5976	29.915
	4	B. A. C. 2602	- -	83 24 58.5	64.0	65.4	65.5	64.5	57.0	62.48	34.4842	- - -	29.915
	5	B. A. C. 2599	- -	83 24 58.5	64.0	65.4	65.5	64.5	57.0	62.48	31.4050	- - -	29.915
13	6	B. A. C. (8194)	- -	80 59 60.0	60.7	67.5	62.8	65.0	59.3	62.55	28.7018	- - -	29.950
	7	γ Pegasi	- -	44 29 60.9	60.3	69.2	62.3	65.5	58.0	62.70	29.2186	- - -	29.952
	8	β Ceti	- -	77 39 60.1	64.5	67.8	66.1	69.0	60.2	64.62	30.4978	- - -	29.955
	9	δ Ceti	- -	67 49 59.8	65.2	68.0	65.6	67.7	60.7	64.50	31.2416	- - -	29.955
	10	Anonymous	- -	56 09 59.9	64.5	68.5	68.2	67.8	58.9	64.63	29.9464	- - -	29.955
	11	Saturn, S.	- -	50 39 58.7	65.0	69.5	65.3	69.8	60.0	64.72	29.8786	- - -	29.994
	12	Anonymous	- -	47 39 61.0	65.2	69.5	67.3	68.3	60.5	65.30	31.9848	- - -	29.994
	13	Nadir	- -	199 59 60.5	68.3	69.0	73.5	68.3	59.9	66.58	30.6704	30.5795	- -
	14	Nadir	- -	59.5	65.5	68.3	70.5	65.0	59.8	64.77	- - -	- - -	- -
	15	B. A. C. 922	- -	83 19 61.5	68.5	70.0	70.0	70.5	60.9	66.90	31.5013	- - -	30.065
14	16	Anonymous	- -	56 04 61.0	61.5	67.0	66.5	69.0	59.5	64.08	33.2524	- - -	29.851
	17	Saturn, S.	- -	50 39 60.9	64.4	69.5	64.0	66.5	59.4	64.12	29.5366	- - -	29.845
	18	Saturn, N.	- -	50 39 60.5	64.0	69.8	64.5	67.0	60.0	64.30	29.9075	- - -	- -
	19	γ Ceti	- -	56 14 59.3	62.3	67.8	68.0	67.3	57.4	63.68	29.3808	- - -	29.829
	20	α Ceti	- -	55 24 60.2	62.5	70.0	66.5	67.3	57.0	63.92	33.0512	- - -	29.824
	21	Anonymous	- -	88 39 60.0	65.3	68.9	66.5	67.8	58.3	64.47	35.9596	- - -	29.815
	22	Nadir	- -	199 59 59.9	66.5	70.8	66.8	65.3	57.5	64.47	30.6776	30.6050	- -
	23	Nadir	- -	59.5	66.3	70.4	67.0	65.9	58.5	64.60	- - -	- - -	- -
	24	B. A. C. 1422	- -	88 59 58.5	65.0	68.3	67.5	65.5	57.5	63.72	35.2336	- - -	29.785
	25	B Orionis	- -	67 14 60.0	66.0	69.5	67.2	67.8	59.9	65.07	30.6150	- - -	29.775
	26	δ Orionis	- -	59 19 61.0	67.2	71.3	70.0	67.2	62.0	66.45	33.0350	- - -	29.750
	27	ε Orionis	- -	60 09 63.0	69.0	72.3	72.0	70.3	62.3	68.15	29.9494	- - -	29.750
	28	α Orionis	- -	51 29 60.0	69.5	69.5	67.2	67.5	59.0	65.45	30.2280	- - -	29.746
16	29	α Lyræ	- -	20 14 57.5	67.5	67.0	65.5	68.0	55.5	63.50	31.0986	- - -	29.945
	30	Venus, S.	- -	82 54 58.0	67.9	67.5	63.4	66.5	57.5	63.63	31.2360	- - -	29.935
	31	Nadir	- -	199 59 59.5	65.3	68.5	67.0	64.9	60.3	64.25	30.7461	30.6794	- -
	32	Nadir	- -	60.1	64.9	68.0	67.7	64.5	59.9	64.18	- - -	- - -	- -
	33	α Piscis Australis	- -	89 19 60.5	67.5	69.3	66.0	67.5	57.0	64.63	34.9796	- - -	29.920
17	34	α Lyræ	- -	20 14 63.0	63.5	65.5	66.9	64.5	54.3	62.95	31.0480	- - -	30.095
	35	Venus S.	- -	82 49 59.5	63.0	62.8	65.5	60.5	54.0	60.88	32.4570	- - -	- -
	36	Venus N.	- -	82 49 58.0	64.5	63.0	64.5	61.5	55.0	61.08	32.7065	- - -	30.051
	37	α Aquilæ	- -	50 24 60.5	62.5	64.8	60.0	66.5	58.5	62.14	31.5376	- - -	30.045
	38	Nadir	- -	199 59 59.7	65.0	67.3	70.0	67.0	59.7	64.78	30.7377	30.6599	- -
18	39	Nadir	- -	199 59 59.5	65.5	68.0	70.0	66.5	60.0	64.92	30.7431	30.6651	- -
	40	Nadir	- -	59.8	64.9	67.5	70.5	67.0	59.9	64.93	- - -	- - -	- -
	41	α Lyræ	- -	20 14 58.9	60.5	65.5	67.3	64.0	57.5	62.28	31.0500	- - -	30.029
	42	Venus, N.	- -	82 44 60.5	65.0	68.2	69.5	69.0	59.9	65.35	34.5275	- - -	29.015
	43	Venus, S.	- -	60.5	67.5	68.4	71.5	68.7	59.5	66.02	34.8062	- - -	30.015
	44	α Aquilæ	- -	50 24 59.5	65.5	69.9	70.0	69.7	59.8	65.73	31.5400	- - -	30.018
	45	α Piscis Australis	- -	89 19 61.5	64.7	66.7	67.3	69.8	58.5	64.75	35.0268	- - -	30.023
	46	α Pegasi	- -	44 29 61.4	67.3	68.7	70.0	70.2	59.2	66.14	32.0943	- - -	30.023
	47	B. A. C. (8194)	- -	80 59 59.9	66.2	67.0	65.5	64.0	58.3	63.48	27.7858	- - -	30.015
	48	Nadir	- -	199 59 61.5	67.5	67.3	71.0	68.9	58.5	65.78	30.7384	30.6487	- -
	49	Nadir	- -	61.0	67.9	67.5	70.0	67.0	59.7	65.52	- - -	- - -	- -
	50	γ Pegasi	- -	44 29 60.5	67.5	67.5	69.3	68.7	58.7	65.37	29.3282	- - -	30.018
	51	Anonymous	- -	51 49 61.1	66.7	66.4	68.0	69.1	61.0	65.38	28.9315	- - -	30.018
	52	Anonymous	- -	51 49 61.1	66.7	66.4	68.0	69.1	61.0	65.38	20.5166	- - -	30.018
	53	β Ceti	- -	77 39 59.5	68.0	68.7	67.4	70.5	59.4	65.58	30.5600	- - -	30.090
	54	Polaris	I to V	330 24 60.9	65.7	67.3	69.5	64.9	57.5	64.30	32.2155	- - -	29.980
	55	Anonymous	- -	55 49 58.9	67.3	67.0	72.0	69.7	57.7	65.43	25.5610	- - -	29.982
	56	Saturn, S.	- -	50 39 61.3	69.0	68.4	70.0	70.5	60.8	66.67	28.5108	- - -	29.993
	57	Saturn, N.	- -	50 39 61.3	69.0	68.4	70.0	70.5	60.8	66.67	28.9450	- - -	29.993
19	58	Nadir	- -	199 59 59.3	67.0	67.7	69.7	65.9	58.0	64.60	30.7075	30.6322	- -
	59	Nadir	- -	59.0	67.5	68.0	69.9	66.9	57.8	64.85	- - -	- - -	- -
	60	α Lyræ	- -	20 14 60.5	63.5	64.7	70.0	63.0	55.0	62.78	31.0660	- - -	29.829
	61	Venus, N.	- -	82 34 60.3	64.5	67.8	67.4	66.8	59.3	64.35	32.4040	- - -	29.805
	62	Venus, S.	- -	59.0	67.5	67.3	69.0	65.9	57.5	64.37	32.5206	- - -	- -
	63	α Aquilæ	- -	50 24 60.9	65.5	69.0	69.5	68.9	58.5	65.38	31.5132	- - -	29.782
20	64	Nadir	- -	199 59 60.1	65.0	65.0	65.3	66.2	60.0	63.60	30.7166	30.6627	- -
	65	Nadir	- -	59.9	64.6	64.5	64.7	66.0	59.3	63.17	- - -	- - -	- -
	66	α Lyræ	- -	20 14 59.5	62.7	65.0	66.7	65.7	57.0	62.77	31.0662	- - -	29.785

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	42.0	37.7	43.0	43.7	− 1 46.93	+ 2 13.91	85 40 31.53	−26 46 52.28	+ 7.15	C.F.	
2	41.0	37.0	42.0	45.5	− 2 18.80	+ 1 59.43	83 34 46.05	−24 41 6.80	+ 7.64		
3	41.0	36.5	42.0	43.5	− 3 31.34	+ 2 6.66	84 53 39.80	+26 0 0.55	+ 8.74		Sept. 4 to Dec. 26, r. = 62″.807.
4	41.0	36.2	41.0	43.5	− 4 3.96	+ 1 58.59	83 22 57.11	−24 29 17.86	+10.51		
5	41.0	36.2	41.0	43.5	− 50.53	+ 1 58.86	83 25 14.81	−24 31 35.56	+10.20		
6	47.0	27.5	40.0	45.0	+ 2 57.94	+ 1 49.60	81 4 50.09	−22 11 10.84	−25.85		High N. W. wind, stars unsteady.
7	43.0	26.0	- -	42.0	+ 1 25.61	+ 27.88	44 31 56.19	+14 21 43.06	−38.43		
8	40.0	26.5	38.0	- -	+ 5.28	+ 1 36.23	77 41 46.13	−18 48 6.88	−25.30		
9	37.5	24.9	- -	- -	− 41.43	+ 1 7.56	67 50 30.63	− 8 56 51.38	−27.45		
10	36.5	24.8	35.0	- -	+ 39.73	+ 44.81	56 11 29.17	+ 2 42 10.08	- - -		
11	36.2	24.0	35.0	40.0	+ 43.96	+ 26.50	50 41 15.18	+ 8 12 24.07	- - -		Not corrected for Parallax.
12	36.2	23.4	34.0	40.0	− 1 28.28	+ 32.24	47 39 9.26	+11 14 29.99	- - -		
13	- -	- -	41.5	- -	- - - -	- - - -	- - - -	- - - -	- - -		
14	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
15	37.0	24.0	37.0	- -	− 57.75	+ 2 2.10	83 21 11.25	−24 27 32.00	−17.15		
16	41.0	32.0	36.0	- -	− 2 46.13	+ 43.75	56 3 1.70	+ 2 50 37.55	- - -		
17	38.5	31.5	33.0	- -	+ 1 7.23	+ 35.23	50 41 46.67	+ 8 12 4.33	- - -		
18	- -	- -	- -	- -	+ 43.75	+ 35.22	50 41 23.18		- - -		
19	34.0	30.5	32.5	- -	+ 1 17.07	+ 44.26	56 17 5.01	+ 2 36 34.24	−24.52		
20	34.0	29.8	32.5	- -	− 2 33.61	+ 42.88	55 23 13.19	+ 3 30 26.06	−22.82		
21	33.3	29.0	32.0	38.0	− 5 36.35	+ 2 33.08	88 37 1.20	−29 43 21.95	- - -		
22	- -	- -	38.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
23	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
24	34.0	29.0	34.0	- -	− 4 50.57	+ 2 35.62	88 57 48.77	−30 4 9.52	− 7.45		
25	32.5	28.0	- -	- -	− 0.55	+ 1 5.43	67 16 9.95	− 8 22 30.70	− 4.81		
26	32.3	28.8	32.0	- -	− 2 32.60	+ 49.39	59 18 23.24	− 0 24 43.99	− 1.91		
27	32.3	28.8	33.0	- -	+ 41.14	+ 50.97	60 11 40.26	− 1 18 1.01	− 2.10		
28	32.0	29.0	33.0	- -	+ 23.81	+ 37.00	51 31 6.26	+ 7 22 32.99	+ 0.61		
29	35.5	17.5	34.3	- -	− 26.27	+ 0.26	20 14 37.49	+38 39 1.76	−12.05		
30	32.5	17.0	32.0	- -	− 34.81	+ 1 51.12	82 56 19.94	−24 2 40.69	- - -		
31	- -	- -	40.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
32	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
33	35.3	18.0	- -	- -	− 4 30.14	+ 2 42.80	89 18 17.29	−30 24 38.04	−22.32		
34	33.0	17.8	- -	34.3	− 24.35	+ 0.26	20 14 38.86	+38 39 0.39	−11.75		
35	- -	- -	29.0	- -	− 1 52.71	+ 1 56.12	82 50 4.39	−23 56 17.15	- - -		
36	26.3	18.3	- -	- -	− 2 8.55	+ 1 55.98	82 49 48.41		- - -		
37	24.9	18.8	26.3	- -	− 55.00	+ 36.56	50 24 43.70	+ 8 28 55.55	−20.19		
38	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		Nadir point not satisfactory. Mercury unsteady.
39	- -	- -	35.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
40	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
41	32.0	20.7	30.9	- -	− 24.14	+ 0.26	20 14 38.40	+38 39 0.85	−11.43		
42	29.9	21.0	30.9	- -	− 4 2.47	+ 1 54.65	82 42 57.86	−23 49 9.74	- - -		
43	29.9	21.0	31.0	- -	− 4 20.08	+ 1 54.52	82 42 40.12		- - -		
44	29.5	21.8	31.0	- -	− 54.83	+ 36.28	50 24 47.18	+ 8 28 52.07	−20.05		For the remainder of this date the nadir point last taken is used.
45	33.0	20.0	30.0	- -	− 4 35.00	+ 2 42.69	89 18 12.44	−30 24 33.19	−22.28		
46	33.0	19.8	30.0	-	− 1 30.74	+ 28.27	44 29 3.67	+14 24 35.58	−37.82		
47	31.0	18.4	27.0	-	+ 2 59.77	+ 1 52.22	81 4 55.47	−22 11 16.22	−25.66		
48	- -	- -	27.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
49	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
50	30.0	18.0	- -	- -	+ 1 23.11	+ 28.44	44 31 56.92	+14 21 42.33	−38.14		
51	30.0	17.9	- -	- -	+ 1 47.83	+ 38.75	51 52 31.96	+ 7 1 7.29	- - -		
52	30.0	17.9	25.0	- -	+10 36.78	+ 38.97	52 1 21.13	+ 6 52 18.12	- - -		
53	29.0	16.9	26.0	- -	+ 5.68	+ 1 41.03	77 41 52.29	−18 48 13.04	−25.82		
54	27.9	16.0	- -	- -	− 1 38.41	− 1 13.41	330 22 12.48	+88 31 26.77	−49.62		The microm. reading Col. 13 is a mean of the readings reduced to the meridian.
55	27.3	15.4	- -	- -	+ 5 19.72	+ 45.08	55 56 10.23	+ 2 57 29.02	- - -		
56	26.8	14.3	27.0	- -	+ 2 14.42	+ 36.79	50 42 57.88	+ 8 10 55.13	- - -		
57	26.8	14.3	- -	-	+ 1 46.90	+ 36.78	50 42 30.35		- - -		
58	- -	- -	28.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
59	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
60	28.0	26.0	- -	-	− 27.20	+ 0.25	20 14 35.83	+38 39 3.42	−11.11		
61	27.9	26.3	31.0	- -	− 1 51.11	+ 1 51.86	82 35 5.11	−23 41 22.10	- - -		
62	- -	- -	- -	-	− 1 58.48	+ 1 51.72	82 34 57.60		- - -		
63	29.2	26.6	32.0	- -	− 55.20	+ 35.64	50 24 45.82	+ 8 28 53.43	−19.88		
64	- -	- -	32.0	- -	- - - -	- - - -	- - - -	- - - -	- - -		
65	- -	- -	- -	- -	- - - -	- - - -	- - - -	- - - -	- - -		
66	35.5	33.8	36.0	- -	− 25.30	+ 0.25	20 14 37.72	+38 39 1.53	−10.79		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1851.				° ′ ″	″	″	″	″	″	″			in.
Dec. 20	1	Venus, S.	- -	82 24 60.0	65.2	65.2	67.9	69.7	59.5	64.58	30.9333	- - -	29.789
	2	Venus, N.	- -	60.0	65.9	64.0	68.0	68.9	59.7	64.42	31.0554	- - -	- -
	3	α Aquilæ	- -	50 24 59.8	67.2	67.3	66.0	70.9	60.0	65.20	31.5364	- - -	29.798
	4	B. A. C. (8194)	- -	80 59 61.0	65.3	65.4	68.7	66.8	58.0	64.20	27.7590	- - -	29.821
	5	Anonymous	- -	54 54 59.2	63.9	65.7	67.0	70.0	58.3	64.02	28.1726	- - -	29.928
	6	Anonymous	- -	54 54 59.2	63.9	65.7	67.0	70.0	58.3	64.02	30.4350	- - -	- -
	7	Iris	- -	51 44 59.7	64.7	65.8	66.3	70.3	57.8	64.10	32.2850	- - -	29.945
	8	β Ceti	- -	77 39 59.9	66.8	67.7	66.0	72.0	60.0	65.40	30.5744	- - -	29.945
	9	Anonymous	- -	77 39 59.9	66.8	67.7	66.0	72.0	60.0	65.40	26.4434	- - -	29.945
	10	θ Ceti	- -	67 49 65.3	70.2	73.4	70.5	75.3	66.0	70.12	31.2723	- - -	- -
	11	Saturn, S.	-	50 39 60.7	66.3	68.4	70.0	71.3	62.7	66.57	28.1727	- - -	29.975
	12	Saturn, N.	- -	- - -	- -	- -	- -	- -	- -	- -	28.5900	- - -	- -
	13	Nadir	- -	199 59 62.3	70.0	69.3	72.5	71.3	60.9	67.72	30.7677	30.6456	- -
	14	Nadir	- -	62.5	71.0	69.0	73.0	70.8	60.8	67.68	- - -	- - -	- -
23	15	Venus N.	- -	81 54 62.3	70.0	69.3	72.5	71.3	60.9	67.72	30.9332	- - -	29.295
	16	Venus, N.	- -	62.5	71.0	69.0	73.0	70.8	60.8	67.85	- - -	30.6691	- -
	17	Venus S.	- -	81 54 59.4	64.0	64.9	68.3	69.0	58.7	64.05	31.1516	- - -	30.295
	18	Venus, S.	- -	60.3	64.9	64.8	69.0	70.0	60.0	64.83	- - -	- - -	- -
	19	Nadir	- -	199 59 58.8	65.3	64.9	64.8	65.9	59.5	63.20	30.7458	30.6927	- -
	20	Nadir	- -	59.0	65.5	65.0	65.3	66.1	60.2	63.52	- - -	- - -	- -
26	21	Iris	- -	51 14 60.0	62.8	60.5	63.0	65.3	54.5	61.02	34.6930	- - -	30.515
	22	Nadir	- -	199 59 59.4	60.5	61.0	64.3	59.5	53.8	59.75	30.6694	30.6679	- -
	23	Nadir	- -	59.5	61.0	61.5	65.0	60.3	54.9	60.37	- - -	- - -	- -
	24	θ Ceti	- -	67 49 60.0	65.4	64.7	67.0	65.3	56.9	63.22	31.2600	- - -	30.510
	25	Parthenope	- -	55 9 58.0	61.0	63.2	62.7	65.0	51.5	60.23	28.7950	- - -	30.515
	26	Saturn, N.	- -	50 44 58.8	65.3	64.4	65.1	67.7	54.5	62.63	33.0420	- - -	30.520
	27	Saturn, S.	- -	- - -	- -	- -	- -	-	-	- -	33.4035	- - -	- -
	28	Uranus	- -	47 44 60.0	63.7	63.0	65.9	63.5	53.0	61.52	32.8934	- - -	30.520
	29	B. A. C. 922	- -	83 19 59.4	67.2	64.6	69.5	64.7	55.0	63.40	31.5038	- -	30.495

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	36.8	35.0	- -	37.0	— 17.02	+ 1 48.96	82 26 36.44	—23 32 48.32	- - -	C.F	Sept. 4 to Dec. 26, $r.$ = 62″.807.
2	- -	- -	- -	- -	— 24.63	+ 1 48.83	82 26 18.70		- - -		
3	37.2	35.3	36.0	38.0	— 54.75	+ 35.01	50 24 45.46	+ 8 28 53.79	—19.73		
4	36.7	32.0	- -	34.0	+ 3 2.35	+ 1 48.32	81 4 54.87	—22 11 15.62	—25.50		
5	35.7	31.8	- -	- -	+ 2 36.51	+ 42.19	54 58 22.72	+ 3 55 16.53	- - -		
6	- -	-	- -	- -	+ 14.47	+ 42.13	54 56 0.62	+ 3 57 38.63	- - -		
7	35.3	30.9	- -	- -	— 1 41.72	+ 37.40	51 43 59.78	+ 7 09 39.47	- - -		
8	35.3	30.9	-	- -	+ 5.65	+ 1 35.36	77 41 46.41	—18 48 7.16	—25.66		
9	35.0	39.8	32.0	- -	+ 4 25.18	+ 1 33.89	77 46 4.47	—18 52 25.22	- -		
10	- -	- -	32.0	- -	— 38.12	+ 1 6.72	67 50 38.72	— 8 56 59.47	—26.78		
11	35.0	29.0	-	- -	+ 2 36.50	+ 35.63	50 43 18.70	+ 8 10 33.67	- - -		
12	- -	- -	- -	- -	+ 2 10.27	+ 35.62	50 42 52.46		- - -		
13	- -	- -	33.0	- -	- - -	- - -	- - - -	- - - -	- - -		
14	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
15	37.3	28.5	38.0	- -	— 16.63	+ 1 50.00	81 56 39.48	- - - -	- - -		Observations not good.
16	- -	- -	- -	- -	- - -	- - -	- - - -	—23 2 53.37	- - -		
17	37.3	28.5	38.0	- -	— 30.21	+ 1 49.85	81 56 25.75	- - - -	- - -		
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
19	- -	- -	38.7	- -	- - -	- - -	- - - -	- - - -	- - -		
20	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
									- - -		
21	33.0	19.0	30.0	- -	— 4 12.80	+ 38.25	51 11 26.47	+ 7 42 12.78	- - -		Not corrected for parallax.
22	- -	- -	30.0	32.0	- - -	- - -	- - - -	- - - -	- - -		
23	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
24	27.0	17.2	29.0	- -	— 37.03	+ 1 10.00	67 50 36.19	— 8 56 56.94	—26.25		
25	25.0	16.7	27.5	- -	+ 1 57.58	+ 42.27	55 12 40.08	+ 3 40 59.17	- - -		
26	23.5	15.9	- -	29.0	— 2 29.09	+ 37.33	50 43 10.87	+ 8 10 39.66	- - -		
27	- -	- -	- -	- -	— 2 51.64	+ 37.32	50 42 48.31		- - -		
28	23.5	15.9	- -	29.0	— 2 19.84	+ 33.23	47 43 14.91	+11 10 24.34	- - -		
29	18.9	15.0	24.8	- -	— 52.36	+ 2 6.44	83 21 17.48	+24 27 38.23	—14.91		

OBSERVATIONS

WITH THE

MERIDIAN CIRCLE,

1851.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Jan. 23	1		B.	33.92	36.30	39.05	41.62	43.80										
	2	α Tauri	C.	3.50	5.73	7.82	10.22	12.29	4 26 22.50									
	3		D.	31.10	33.75	36.99	39.41	42.07										
	4		E.	0.33	3.83	6.47	9.06	12.75										
	5		A.	48.60	51.80	55.18	58.73	1.34										
	6		B.	19.05	21.24	23.88	26.41	28.65										
	7	α Orionis	C.	47.53	50.09	51.98	54.29	56.28	5 45 51.97									
	8		D.	15.48	18.18	20.15	22.45	25.00										
	9		E.	42.60	45.97	48.50	51.09	54.76										
	10		B.	- -	25.64	20.48	12.87	2.48										
	11	51 (Hev.) Cephei	C.	32.96	19.95	4.94	49.71	31.84	6 28 53.33									
	12		D.	8.98	5.79	47.90	33.60	29.50										
	13		A.	20.97	24.25	27.86	32.05	35.07										
	14		B.	55.09	57.46	0.76	3.70	6.25										
	15	ε Canis Majoris	C.	26.45	29.20	31.60	34.05	36.50	6 51 31.73									
	16		D.	58.14	1.78	4.27	6.75	8.80										
	17		E.	27.80	31.49	34.41	37.25	41.29										
	18		A.	- -	52.00	8.00	27.00	13.00										
	19		B.	37.00	1.00	39.00	18.00	48.00										
24	20	Polaris	C.	0.00	27.00	- -	8.00	33.00	1 6 28.04									
	21		D.	47.00	25.00	46.00	13.00	55.00										
	22		E.	15.00	23.00	6.00	44.00	0.00										
	23		A.	- -	25.67	29.90	33.61	36.76										
	24		B.	55.75	57.97	0.75	3.59	6.05										
	25	α Arietis	C.	26.37	28.95	31.13	33.54	35.85	1 57 33.90									
	26		D.	56.35	59.05	1.38	3.92	6.80										
	27		E.	25.57	29.19	32.07	34.96	38.43										
	28	α Tauri	C.	2.92	5.28	7.33	9.60	11.66	4 26 21.92									
	29		D.	31.27	34.39	36.50	38.84	41.45										
	30		A.	4.16	6.94	10.70	14.07	16.95										
	31		B.	34.60	36.50	39.52	42.00	44.28										
	32	β Orionis	C.	3.58	5.53	7.68	9.94	11.88	5 6 7.64									
	33		D.	31.20	33.92	36.00	38.14	40.84										
	34		E.	58.52	1.61	4.53	7.07	10.74										
	35		A.	26.21	29.16	33.25	36.98	40.39										
	36		B.	0.35	2.37	5.40	8.35	11.14										
	37	β Tauri	C.	32.74	35.55	37.44	39.88	42.56	5 15 37.39									
	38		D.	3.87	6.84	9.36	11.85	14.74										
	39		E.	34.60	38.23	41.32	43.95	48.19										
	40		A.	6.04	8.97	12.28	15.83	18.69										
	41		B.	35.99	38.17	40.77	43.18	45.62										
	42	δ Orionis	C.	4.62	6.64	8.97	10.93	12.96	5 23 8.68									
	43		D.	31.90	34.43	36.93	38.94	41.47										
	44		E.	58.78	2.08	4.74	7.18	10.89										
	45		A.	44.70	48.20	52.34	56.38	59.74										
	46		B.	21.27	23.72	26.90	30.04	32.84										
	47	α Columbæ	C.	55.45	58.30	0.89	3.34	5.87	5 33 0.59									
	48		D.	28.78	32.00	34.33	36.85	40.42										
	49		E.	1.50	5.15	8.57	11.57	15.65										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Jan. 23	4	+ 75.01	+ 0.025	− 0.279	+ 0.140	+ 0.058
24	4	+ 75.59	+ 0.028	− 0.279	+ 0.140	+ 0.058

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 14.85	+ 75.02	- -	- - -	- - - -	- -	4 26 22.67	- - - -	— 3.62	- -	J.M.*	
4												
5												
6												
7	— 0.21	+ 75.07	- - -	- - -	- - - -	- -	5 47 6.83	- - -	— 3.73	- -		
8												
9												
10												
11	— 49.89	+ 75.08	- - -	- - -	- - - -	- -	6 29 18.52	- - - -	—49.25	- -		
12												
13												
14												
15	— 0.34	+ 75.09	- - -	- - -	- - - -	- -	6 52 46.48	- - -	— 3.43	- -		
16												
17												
18												
19												
20	— 98.29	+ 21.50	- - -	- - -	- - - -	- -	1 6 11.65	- - - -	—13.73	- -		20. Observed with East clock. Reduction to West clock = —54s.
21												
22												
23												
24												
25	— 3.02	+ 75.53	- - -	- - -	- - - -	- -	1 58 46.41	- - - -	— 2.81	- -		
26												
27												
28												
29	— 14.81	+ 75.60	- - -	- - -	- - - -	- -	4 27 22.71	- - - -	— 3.61	- -		
30												
31												
32	— 0.26	+ 75.62	- - -	- - -	- - - -	- -	5 7 23.00	- - - -	— 3.26	- -		
33												
34												
35												
36												
37	— 0.13	+ 75.62	- - -	- - -	- - - -	- -	5 16 52.88	- - - -	— 4.21	- -		
38												
39												
40												
41												
42	— 0.22	+ 75.63	- - -	- - -	- - - -	- -	5 24 24.09	- - - -	— 3.53	- -		
43												
44												
45												
46												
47	— 0.39	+ 75.63	- - -	- - -	- - - -	- -	5 34 15.83	- - - -	— 2.76	- -		
48												
49												

* The letters J. M., in the column headed Observer, indicates Professor James Major; and the letters D. M., Mr. Daniel G. Major.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	47.06	50.99	54.62	57.94	0.71										
	2		B.	18.28	20.86	23.14	25.76	28.12										
Jan. 24	3	α Orionis	C.	47.10	49.21	51.44	53.57	55.64	5 45 51.28	-	-	-	-	-	-	-	-	-
	4		D.	14.98	17.65	19.85	21.80	24.36										
	5		E.	41.95	45.18	47.74	50.28	53.84										
	6		E.	24.00	20.00	6.00	48.00	43.00										
	7		D.	38.00	25.00	1.00	35.00	18.50										
	8	δ Ursæ Minoris S.P.	C.	38.50	13.50	51.00	23.50	1.00	6 19 51.16	-	-	-	-	-	-	-	-	-
	9		B.	20.00	57.00	41.00	25.00	59.50										
	10		A.	56.00	44.00	42.50	41.00	27.00										
	11	ε Canis Majoris	C.	26.74	29.49	31.49	33.91	36.66	6 51 47.61	-	-	-	-	-	-	-	-	-
	12		D.	58.25	1.20	3.43	5.79	9.18										
25	13	Polaris	C.	2.00	26.00	46.50	9.00	31.50	1 4 47.00	-	-	-	-	-	-	-	-	-
	14		B.	32.75	35.05	37.75	40.43	42.77										
	15	α Tauri	C.	2.34	4.58	6.86	9.00	11.24	4 26 6.82	-	-	-	-	-	-	-	-	-
	16		D.	30.98	33.70	35.97	38.17	40.86										
	17	ε Ursæ Minoris S.P.	D.	54.50	14.00	30.00	45.80	5.20	4 59 13.67	-	-	-	-	-	-	-	-	-
	18		C.	25.00	42.00	57.00	13.50	29.70										
	19	δ Orionis E.	D.	39.00	57.20	- -	- -	- -	5 4 48.10	-	-	-	-	-	-	-	-	-
	20	δ Orionis W.	C.	3.97	6.28	8.14	10.45	12.68	5 23 8.30	-	-	-	-	-	-	-	-	-
31	21	Polaris	C.	52.00	8.00	38.00	4.00	30.00	1 4 38.40	-	-	-	-	-	-	-	-	-
	22	β Orionis	C.	56.69	58.22	0.28	2.38	4.63	5 6 0.44	-	-	-	-	-	-	-	-	-
	23	β Tauri	C.	26.58	29.04	31.58	34.09	36.44	5 15 31.55	-	-	-	-	-	-	-	-	-
	24	δ Orionis	C.	58.27	0.70	2.78	4.84	6.97	5 23 2.71	-	-	-	-	-	-	-	-	-
	25	α Leporis	C.	44.12	46.55	48.83	50.81	53.18	5 24 48.70	-	-	-	-	-	-	-	-	-
	26	ε Orionis	C.	14.00	16.17	18.30	20.30	22.73	5 28 18.30	-	-	-	-	-	-	-	-	-
	27	α Columbæ	C.	49.48	51.96	54.38	57.08	59.59	5 33 54.50	-	-	-	-	-	-	-	-	-
	28	δ Ursæ Minoris S.P.	D.	39.50	24. 0	0.50	36.00	18.40	6 14 54.72	-	-	-	-	-	-	-	-	-
	29		C.	39.00	12.50	50.60	25.70	1.00										
	30	51 (Hev.) Cephei	C.	37.50	13.50	57.00	41.80	27.00	6 27 59.36	-	-	-	-	-	-	-	-	-
	31	α Canis Majoris	C.	9.74	12.24	14.45	16.65	18.86	6 37 14.39	-	-	-	-	-	-	-	-	-
Feb. 6	32	δ Ursæ Minoris S.P.	C.	52.00	32.50	15.00	54.50	35.00	6 18 13.80	60.0	57.8	56.1	52.4	125 56 56.58	40.750	30.176	41.3	21.7
	33	α Canis Majoris	C.	3.53	6.08	8.49	10.58	12.70	6 37 8.28	-	-	-	-	-	-	-	-	-
	34	ε Canis Majoris	C.	14.75	17.53	19.65	22.14	24.40	6 51 19.69	60.8	55.2	60.9	55.4	247 38 58.07	41.888	30.184	41.0	21.7
	35	δ Geminorum	C.	41.60	44.18	- -	48.42	50.88	7 10 46.27	64.4	63.7	65.4	55.9	196 38 62.35	41.074	30.190	40.0	30.2
	36	α Canis Minoris	C.	59.14	1.41	3.33	5.60	7.72	7 30 3.44	65.0	62.4	66.8	58.6	213 17 63.20	41.830	30.190	39.8	30.4
	37	β Geminorum	C.	39.70	42.42	44.87	47.55	49.47	7 35 44.80	5.2	7.5	7.6	0.4	190 30 5.18	38.764	30.192	39.5	30.0
	38									61.2	59.7	61.8	60.4	- - - -	39.704	- -	- -	- -
	39	Nadir	- -	- -	- -	- -	- -	- -	- - - -	60.7	59.9	62.3	59.7	359 59 60.52	39.702	- -	- -	- -
	40									60.4	59.1	61.8	59.3	- - - -		- -	- -	- -
7	41	Polaris	C.	44.00	9.50	33.00	51.50	13.00	1 3 30.20	62.4	60.8	61.7	56.6	130 29 59.68	- - - -	30.086	44.8	42.8
	42									60.4	59.5	61.4	55.0			30.084	44.8	43.0
	43	α Arietis	C.	13.94	16.34	18.50	20.78	23.14	1 57 18.54	-	-	-	-	-	-	-	-	-
	44	Moon, I. & S.	C.	38.35	40.66	42.86	44.96	47.15	2 2 42.80	19.5	18.0	23.5	10.4	212 35 17.85	- - - -	30.078	44.2	40.3
	45	γ Ceti	C.	- -	4.45	6.70	8.75	10.91	2 34 7.70	-	-	-	-	-	-	-	-	-
	46	α Persei	C.	7.49	11.25	14.24	17.70	20.57	3 12 14.25	-	-	-	-	-	-	-	-	-
	47									59.4	58.4	60.8	58.2	- - - -	39.632	-	-	-
	48	Nadir	- -	- -	- -	- -	- -	- -	- - -	58.8	58.4	61.1	58.5	359 59 59.30	39.634	-	-	-
	49									60.0	58.8	61.2	58.0	- - -		- -	- -	- -
	50	α Tauri	C.	50.25	52.50	54.79	57.06	59.10	4 25 54.74	59.0	57.5	62.8	55.0	202 38 58.58	VII. 41.339	30.080	43.0	36.0

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	m. s.	s.	s.	s.	s.
Jan. 24	4	+ 75.59	+ 0.028	− 0.279	+ 0.140	+ 0.058
25	4	+ 76.21	+ 0.023	− 0.279	+ 0.140	+ 0.058
31	5	+ 81.68	+ 0.045	− 0.279	+ 0.140	+ 0.058
Feb. 6	7	+ 86.96	+ 0.000	+ 0.207	− 0.164	+ 0.233
7	2	+ 86.74	+ 0.021	+ 0.608	− 0.291	+ 0.417

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.20	+ 75.63	- - -	- - -	- - - -	- -	5 47 6.71	- - - -	− 3.73	- -	J. M.	
4												
5												
6												
7												
8	− 3.61	+ 20.58	- - -	- - -	- - - -	- -	18 20 8.13	- - - -	+34.67	- -		8. Observed with East clock. Reduction to West clock = −54ˢ.08. Very unsteady.
9												
10												
11	− 16.39	+ 75.67	- - -	- - -	- - - -	- -	6 52 46.89	- - - -	− 3.43	- -		
12												
13	+ 4.56	+ 21.97	- - -	- - -	- - - -	- -	1 5 13.53	- - - -	−13.00	- -		13. Observed with East clock. Reduction to West clock = −54ˢ.16.
14												
15	− 0.41	+ 76.22	- - -	- - -	- - - -	- -	4 27 22.63	- - - -	− 3.61	- -		
16												
17	+102.84	+ 22.07	- - -	- - -	- - - -	- -	17 1 18.58	- - - -	+12.60	- -		18. Observed with East clock. Reduction to West clock = −54ˢ.16.
18												
19	− 0.30	+ 76.25	- - -	- - -	- - - -	- -	5 24 24.25	- - - -	− 3.52	- -		
20												
21	+ 4.40	+ 26.70	- - -	- - -	- - - -	- -	1 5 9.50	- - - -	− 8.31	- -		21. Observed with East clock. Reduction to West clock = −54ˢ.80. Very unsteady.
22	− 0.28	+ 81.68	- - -	- - -	- - - -	- -	5 7 21.84	- - - -	− 3.19	- -		
23	− 0.22	+ 81.68	- - -	- -	- - -	- -	5 16 53.01	- - - -	− 4.15	- -		
24	− 0.30	+ 81.69	- - -	- -	- - - -	-	5 24 24.10	- - - -	− 3.47	- -		
25	− 0.27	+ 81.69	- - -	- - -	- - - -	- -	5 26 10.12	- - - -	− 3.15	- -		
26	− 0.30	+ 81.69	- - -	- - -	- - - -	- -	5 29 39.69	- - - -	− 3.46	- -		
27	− 0.40	+ 81.69	- - -	- -	- - - -	- -	5 34 15.79	- - - -	− 2.66	- -		
28	+352.72	+ 81.71	- - -	- - -	- - - -	- -	18 20 9.15	- - - -	+33.62	- -		28. Observed with East clock.
29												
30	+ 2.28	+ 81.71	- - -	- - -	- - - -	- -	6 28 23.35	- - - -	−47.83	- -		30. Observed with East clock.
31	− 0.37	+ 81.72	- - -	- -	- - - -	- -	6 38 35.74	- - - -	− 3.39	- -		
32	− 2.70	- -	− 36.20	− 1 25.54	125 54 54.74	- -	6 20 11.11	+86 1 16.49	+32.19	−10.89		32. Observed with East clock.
33	+ 0.40	+ 86.96	- - -	- - -	- - - -	- -	6 38 35.64	- - - -	− 3.34	- -		
34	+ 0.46	+ 86.96	− 1 15.31	+ 2 29.70	247 40 12.46	- -	6 52 47.11	−28 46 33.21	− 3.33	+19.02		
35	+ 0.36	+ 86.96	− 47.43	+ 18.25	196 38 33.17	- -	7 12 13.54	+22 15 6.08	− 4.29	+12.21		
36	+ 0.34	+ 86.96	+ 1 13.32	+ 40.06	213 17 29.94	- -	7 31 30.74	5 36 9.31	− 3.85	+17.65		
37	+ 0.30	+ 86.96	+ 31.63	+ 11.33	190 30 48.17	- -	7 37 12.06	+28 22 51.08	− 4.41	+13.57		37. Very unsteady. Poor observation.
38	+ 0.30	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
39	- -	- -	- - -	- -	- - - -	39.689	- - -	- - - -	- -	- -		
40	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
41	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		41. Observed with East clock. Reduction to West clock = −54ˢ.0.
42	+ 2.44	+ 32.72	- - -	− 1 9.64	- - - -	- -	1 5 5.36	- - - -	− 2.63	- -		
43	+ 0.96	+ 86.74	- - -	- - -	- - - -	- -	1 58 46.24	- - - -	− 2.59	- -		
44	+ 0.99	+ 86.74	- - -	- - -	- - - -	- -	2 5 13.53	- - - -	- -	- -		
45	− 0.13	+ 86.75	- - -	- - -	- - - -	- -	2 35 34.32	- - - -	− 2.86	- -		44. Semidiameter = 63′.00.
46	+ 0.78	+ 86.76	- - -	- - -	- - - -	- -	3 13 41.79	- - - -	− 3.96	- -		
47	-	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
48	- -	- -	- - -	- - -	- - - -	39.653	- - -	- - - -	- -	- -		
49	- -	-	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
50	+ 0.88	+ 86.78	+ 2 1.49	+ 25.02	202 41 25.09	- -	4 27 22.40	+16 12 14.16	− 3.43	− 1.16		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Feb. 7	1	δ Ursæ Minoris S.P.	c.	33.50	7.00	43.00	18.00	57.00	6 18 43.70	59.5	57.0	56.1	54.8	125 29 56.85	38.278	30.054	39.0	32.9
	2	51 (Hev.) Cephei	c.	20.00	4.50	49.00	34.50	18.50	6 27 49.30	60.8	59.5	60.7	50.8	131 38 57.95	39.069	30.060	39.3	32.3
	3	α Canis Majoris	c.	3.24	5.75	7.86	9.90	12.08	6 37 7.77	57.4	55.0	60.3	53.5	235 23 56.55	40.780	30.058	38.0	32.1
	4	ε Canis Majoris		-	-	-	-	-	- - -	44.3	38.8	44.0	38.0	247 38 41.28	41.295	30.062	37.5	32.3
	5	α^2 Geminorum	c.	33.04	35.50	37.67	40.50	42.86	7 23 37.91	62.5	63.9	64.5	58.4	186 38 62.32	36.280	30.074	37.3	32.8
	6	α Canis Minoris	c.	58.51	0.78	2.81	5.04	7.26	7 30 2.88	23.4	23.9	24.9	17.3	213 19 22.38	- - - -	30.074	37.5	32.8
	7	Lalande, 15729	c.	44.44	47.49	50.05	52.87	55.30	7 54 50.03	3.5	6.4	5.7	2.4	182 9 4.50	34.340	30.076	37.7	32.8
12	8	γ^1 Eridani	c.	30.83	33.04	35.18	37.27	39.36	3 49 35.14	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	9									59.4	59.0	59.0	56.5					
	10	Nadir	- -	- -	-	- -	- -	- -	- - -	58.0	60.0	59.4	57.0	359 59 58.35	39.622	- -	- -	- -
	11									58.2	60.0	59.0	56.1		39.615			
	12	δ Ursæ Minoris S.P.	c.	31.00	4.00	42.00	16.50	58.00	6 17 42.30	58.0	61.7	59.0	53.8	125 29 58.12	38.267	- -	- -	30.7
	13	51 (Hev.) Cephei	c.	21.40	4.60	48.50	35.00	18.50	6 27 49.60	58.0	62.4	60.4	56.4	131 38 59.30	38.907	30.760	41.5	30.8
	14	ε Canis Majoris	c.	12.46	15.35	17.60	20.05	22.58	6 51 17.61	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	15	α Canis Minoris	c.	57.08	59.46	1.53	3.55	5.55	7 30 1.43	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	16	α Hydræ	c.	42.80	45.32	47.25	49.36	51.60	9 18 47.27	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
17	17	δ Orionis	c.	46.80	49.26	51.48	53.40	55.62	5 22 51.31	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	18	δ Ursæ Minoris S.P.	c.	31.00	7.50	42.50	16.00	56.00	6 17 42.60	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	19	51 (Hev.) Cephei	c.	12.50	0.00	42.00	28.00	12.00	6 27 42.90	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	20	ε Canis Majoris	c.	9.20	11.86	14.20	16.64	18.83	6 51 14.15	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	21	α Canis Minoris	c.	53.69	55.80	58.05	59.94	2.04	7 29 57.90	- -	- -	- -	- -	- - - -	- - - -	-	- -	- -
18	22									0.5	3.2	2.0	0.0					
	23	Nadir	- -	- -	- -	- -	- -	- -	- - -	0.5	3.1	2.5	0.3	0 0 1.50	39.659	- -	- -	- -
	24									0.3	3.2	2.0	0.4		39.658			
	25	δ Ursæ Minoris S.P.	c.	28.00	7.50	42.00	17.50	50.00	6 18 41.00	62.5	64.8	60.0	57.5	125 29 61.20	38.369	30.580	42.5	34.8
	26	51 (Hev.) Cephei	c.	11.00	55.00	37.50	23.70	9.50	6 27 39.34	64.3	68.2	64.2	62.0	131 38 64.67	39.187	30.580	42.0	35.1
	27	α Canis Majoris	c.	56.14	58.47	0.85	3.00	5.08	6 37 0.71	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	28	ε Canis Majoris	c.	7.53	9.91	12.54	14.87	17.46	6 51 12.46	11.0	11.7	12.9	7.5	247 39 10.77	41.904	30.582	41.4	35.5
	29	α^2 Geminorum	c.	25.93	28.53	31.24	33.80	35.78	7 23 31.06	4.8	7.7	5.7	0.7	186 42 4.72	41.415	30.594	40.3	33.5
	30	α Canis Minoris	c.	51.76	53.93	56.00	58.14	0.35	7 29 56.04	66.9	70.5	71.8	59.0	213 14 67.05	36.404	- -	- -	- -
	31	β Geminorum	c.	32.48	35.15	37.41	39.85	42.35	7 34 37.45	8.1	13.7	13.5	6.0	190 30 10.32	38.710	30.596	39.8	32.8
22	32									60.2	61.7	61.2	58.9					
	33	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.3	62.0	63.0	59.5	359 59 61.20	39.777	- -	- -	- -
	34									61.3	61.9	63.5	59.9		39.774			
	35	β Tauri	c.	11.98	14.26	16.76	19.31	21.82	5 16 16.83	56.8	62.0	62.0	54.7	190 23 58.87	38.130	30.126	54.5	47.9
	36	δ Orionis	c.	43.98	46.17	48.20	50.20	52.60	5 22 48.23	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	37	ε Orionis	c.	59.33	1.54	3.82	5.90	8.15	5 27 3.75		- -	- -	- -	- - - -	- - - -	- -	- -	- -
	38	α Columbæ	c.	34.65	37.41	39.75	42.36	44.92	5 32 39.82	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	39	α Orionis	c.	26.46	29.07	31.07	33.13	35.16	5 45 30.98	47.0	48.8	51.8	42.2	211 29 47.45	38.107	30.116	53.8	47.7
	40	μ Geminorum	c.	16.94	19.29	21.30	23.54	25.65	6 12 21.34	60.9	63.2	65.7	56.6	196 14 61.60	34.035	30.114	53.5	46.6
	41	δ Ursæ Minoris S.P.	c.	- -	3.80	42.00	15.00	53.00	6 18 58.45	60.5	61.0	58.0	54.5	125 29 58.50	38.507	- -	- -	- -
	42	51 (Hev.) Cephei	c.	10.50	59.50	39.05	25.00	10.00	6 27 40.90	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	43	α Canis Majoris	c.	55.26	57.57	59.75	1.97	4.16	6 36 59.74	-	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	44	ε Canis Majoris	c.	6.30	8.82	11.13	13.71	16.18	6 51 11.23	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
25	45		A.	31.00	19.50	35.00	55.00	38.00										
	46		B.	4.00	25.00	2.00	43.00	13.00										
	47	Polaris	c.	26.00	50.00	- -	34.00	55.00	1 3 4.79	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	48		D.	5.00	47.00	8.50	31.00	13.00										
	49		E.	34.00	42.00	24.00	2.00	18.00										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Feb. 12	7	+ 88.41	+ 0.012	+ 0.608	− 0.291	+ 0.417
17	7	+ 91.78	+ 0.028	+ 0.608	− 0.291	+ 0.417
18	7	+ 93.83	+ 0.080	+ 0.495	− 0.227	+ 0.324
22	6	+ 94.91	+ 0.012	+ 0.495	− 0.227	+ 0.324
25	6	+ 93.64	− 0.004	+ 0.495	− 0.227	+ 0.324

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	− 0.17	86.83	+ 47.09	− 1 24.59	125 29 19.35	- -	18 20 10.36	86 35 40.10	+31.97	+ 6.79	J. M.	1. Observed with East clock. Reduction to West clock = −54.0.
2	+ 1.60	86.83	+ 20.00	− 1 7.99	131 38 9.96	- -	6 29 17.73	+87 15 29.29	−46.29	− 4.65		
3	+ 0.83	86.83	− 37.36	+ 1 27.59	235 24 46.78	- -	6 38 35.43	−16 31 7.53	− 3.33	+18.32		
4	- -	- -	− 56.23	2 26.20	247 40 11.25	- -	- - -	−28 46 32.00	- -	+19.16		2. Observed with East clock. Reduction to West clock = −54.0. Blurred.
5	+ 0.80	86.84	+ 1 55.51	7.09	186 41 4.92	- -	7 25 5.55	+32 12 34.33	− 4.57	+11.70		
6	+ 1.04	86.85	- - -	- - -	- - - - -	- -	7 31 30.77	- - - -	− 3.84	+17.77		
7	+ 0.80	86.86	+ 3 1.96	+ 2.32	182 12 7.78	- -	7 56 17.69	+36 41 31.47	− 4.84	+14.16		5. Unsteady.
8	+ 1.04	+ 88.36	- - -	- - -	- - - - -	- -	3 51 4.54	- - - -	− 2.57	- -		
9												
10	- -	- -	- - -	- - -	- - - - -	39.666	- - -	- - - -	- -	- -		
11												
12	− 0.20	88.40	+ 47.91	− 1 27.04	125 29 18.19	- -	18 20 10.50	+86 35 39.74	+31.12	+ 7.74		12. Observed with East clock.
13	+ 1.60	88.40	+ 25.99	− 1 9.88	131 38 15.41	- -	6 29 19.60	87 15 23.84	−45.09	− 5.72		13. Observed with East clock.
14	+ 1.15	88.41	- - -	- - -	- - - - -	- -	6 52 47.16	- - - -	− 3.27	- -		
15	0.92	88.41	- - -	- - -	- - - - -	- -	7 31 30.76	- - - -	− 3.82	- -		
16	0.97	88.44	- - -	- - -	- - - - -	- -	9 20 16.68	- - - -	− 3.87	- -		
17	0.95	91.74	- - -	- - -	- - - - -	- -	5 24 24.00	- - - -	− 3.26	- -		
18	− 0.19	91.77	- -	- - -	- - - - -	-	18 20 14.18	- - - -	+29.75	- -		18. Observed with East clock.
19	+ 1.60	91.77	- - -	- - -	- - - - -	- -	6 29 16.27	- - - -	−43.49	- -		19. Observed with East clock.
20	+ 1.15	91.78	- - -	- - -	- - - - -	- -	6 52 47.08	- - - -	− 3.21	- -		
21	+ 0.92	91.79	- - -	- - -	- - - - -	- -	7 31 30.61	- - - -	− 3.79	- -		
22												
23	- -	- -	- - -	- - -	- - - - -	39.615	- - -	- - - -	- -	- -		23. Mercury tremulous.
24												
25	0.19	93.78	+ 42.67	− 1 25.69	125 29 18.18	- -	18 20 14.97	86 35 38.93	+29.45	+ 9.29		25. Observed with East clock.
26	0.88	93.79	+ 14.66	− 1 8.76	131 38 10.57	- -	6 29 14.01	87 15 28.68	−43.17	− 7.04		26. Observed with East clock.
27	0.81	93.80	- - -	- - -	- - - - -	- -	6 38 35.32	- - - -	− 3.21	- -		
28	0.88	93.82	− 1 18.39	+ 2 27.76	247 40 20.14	- -	6 52 47.16	−28 46 40.89	− 3.20	+20.97		
29	0.66	93.85	− 1 1.64	+ 7.20	186 41 10.28	- -	7 25 5.57	+32 12 28.97	− 4.50	+10.76		
30	0.72	93.87	+ 1 49.97	+ 40.34	213 17 37.36	- -	7 31 30.63	+ 5 36 1.89	− 3.78	+18.30		
31	0.64	93.87	+ 30.99	+ 11.43	190 30 52.74	- -	7 36 11.96	+28 22 46.51	− 4.35	+12.70		
32												
33	- -	- -	- - -	- - -	- - - - -	39.750	- - -	- - - -	- -	- -		
34												
35	0.67	94.90	+ 55.48	+ 10.81	190 25 5.16	- -	5 16 52.40	+28 28 34.09	− 3.81	− 0.78		
36	0.75	94.90	- - -	- - -	- - - - -	- -	5 24 23.88	- - - -	− 3.20	- -		
37	0.75	94.90	- - -	- - -	- - - - -	- -	5 28 39.40	- - - -	− 3.11	- -		
38	0.92	94.90	- - -	- - -	- - - - -	- -	5 34 15.64	- - - -	− 2.47	- -		
39	0.72	94.91	+ 56.27	36.01	211 31 19.73	- -	5 47 6.61	7 22 19.52	− 3.41	+ 8.61		
40	+ 0.67	94.91	+ 3 15.72	+ 17.23	196 18 34.55	- -	6 13 56.92	22 35 4.70	− 3.97	+ 6.28		
41	− 16.50	94.91	+ 42.57	− 1 22.35	125 29 18.72	- -	18 20 16.86	86 35 39.47	+28.21	+ 9.97		41. Observed with East clock. Unsteady.
42	+ 0.88	94.92	- - -	- - -	- - - - -	- -	6 29 6.70	- - - -	−41.83	- -		
43	0.81	94.92	- - -	- - -	- - - - -	- -	6 38 35.47	- - - -	− 3.15	- -		42. Observed with East clock. Unsteady.
44	0.88	94.92	- - -	- - -	- - - - -	- -	6 52 47.03	- - - -	− 3.11	- -		
45												
46												
47	1.60	94.38	- -	- -	- - - - -	- -	- - -	- - - -	- -	- -		47. Observed with East clock.
48												
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Feb. 25	1									2.4	3.2	6.1	3.4					
	2	Nadir	- -	- -	- -	- -	- -	- -	- - -	2.5	4.2	5.4	3.2	0 0 3.66	39.777	- -	- -	- -
	3									2.2	3.9	3.8	3.6		39.777			
	4	α Columbæ	C.	35.78	38.19	40.82	43.52	46.02	5 32 40.87	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	5	α Orionis	C.	27.54	29.94	32.22	34.32	36.57	5 45 32.12	2.5	4.9	11.9	0.0	211 30 4.82	38.725	30.248	53.2	41.5
	6	δ Ursæ Minoris S.P.	C.	30.50	4.00	43.50	19.00	55.00	6 18 42.40	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	7	51 (Hev.) Cephei	C.	9.50	59.00	39.00	24.50	7.50	6 27 39.90	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	8	ε Canis Majoris	C.	7.29	9.78	12.09	14.52	16.93	6 51 12.12	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	9	ε Hydræ	C.	15.17	19.17	21.25	23.53	26.30	8 37 21.08	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
26	10		A.	30.00	20.00	36.00	50.00	58.00										
	11		B.	3.00	24.00	59.00	42.00	9.00										
	12	Polaris	C.	20.00	46.00	4.00	26.00	51.00	1 3 58.40	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	13		D.	4.00	44.00	4.00	27.00	12.00										
	14		E.	34.00	39.00	18.00	0.00	15.00	21.20	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	15									60.7	61.7	62.3	59.0					
	16	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.6	62.2	63.0	59.7	359 59 61.26	39.775	- -	- -	- -
	17									61.3	61.7	62.5	59.4		39.783			
	18	β Geminorum	C.	32.52	34.87	37.34	39.76	42.18	7 34 37.33	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	19	Weis. 2, VII. 1212	C.	12.00	14.74	17.52	19.92	23.12	7 44 17.46	60.0	63.5	53.9	59.4	179 14 59.20	42.672	30.234	50.8	42.0
	20	Anonymous	C.	37.72	40.59	43.14	45.96	48.76	43.23	59.6	64.7	65.4	59.0	182 11 62.17	39.650	- -	- -	41.5
	21	ε Hydræ	C.	14.86	16.90	19.04	21.08	23.35	8 37 19.05	58.7	60.8	63.2	54.5	211 56 59.30	42.470	30.224	49.0	39.8
	22	ι Ursæ Majoris	C.	18.67	21.97	25.11	28.28	31.55	8 47 25.12	58.0	59.8	60.3	56.4	170 17 58.62	42.295	30.220	48.4	39.5
	23	Metis	C.	16.30	18.56	- -	23.50	25.85	21.05	57.3	58.5	60.7	53.0	193 29 57.38	39.520	30.226	47.5	39.1
	24		C.	16.76	19.45	21.60	24.04	26.47	9 21 21.66	58.0	58.7	60.8	52.2	193 50 57.42	42.250	- -	- -	38.8
	25		C.	24.03	26.50	- -	31.22	33.03	9 27 28.69	56.9	59.4	62.0	54.3	193 50 58.15	41.810	30.220	47.2	39.2
March 4	26									60.9	60.4	61.5	59.4					
	27	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.8	61.8	61.0	60.1	359 59 60.92	39.706	- -	- -	- -
	28									61.4	61.4	61.7	59.7		39.716			
	29	α Canis Minoris	C.	47.76	49.75	51.74	53.78	56.03	7 29 51.81	63.8	62.9	64.2	53.8	213 17 61.17	41.467	- -	- -	46.4
	30	β Geminorum	- -	- -	- -	- -	- -	- -	- - -	17.2	19.0	18.5	10.9	190 30 16.40	39.070	30.062	51.2	46.1
	31	15 Argûs	C.	29.23	31.67	33.95	36.36	38.55	7 59 33.65	14.8	7.8	9.8	6.7	242 44 9.77	38.707	30.054	51.0	46.5
	32	ε Hydræ	C.	10.49	12.63	14.75	16.98	18.92	8 37 14.75	56.1	54.9	57.1	47.9	211 56 54.00	42.224	30.051	51.0	45.2
	33	ι Ursæ Majoris		- -	- -	- -	- -	- -	- - -	10.4	11.4	11.2	8.3	170 15 10.32	37.365	30.050	50.8	45.1
11	34									60.4	57.9	60.4	58.5					
	35	Nadir	-	- -	- -	- -	- -	- -	-	60.9	57.7	60.7	59.5	359 59 59.62	39.682	- -	- -	- -
	36									61.4	57.4	61.5	59.2		39.690			
	37	51 (Hev.) Cephei	C.	- -	- -	21.00	4.00	49.00	6 30 4.67	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	38	α Canis Majoris	- -	- -	- -	- -	- -	- -	- - -	7.4	4.0	7.4	0.0	235 24 4.70	40.820	30.000	53.4	53.8
	39	δ Geminorum	C.	25.08	27.46	29.60	32.10	34.32	7 9 29.71	8.0	6.8	8.0	2.6	196 39 6.35	41.128	30.002	53.4	51.5
	40	α^2 Geminorum	C.	- -	- -	21.66	24.21	26.70	7 23 24.19	8.9	8.8	10.8	3.0	186 42 7.87	41.780	30.008	53.2	52.4
	41	α Canis Minoris	C.	41.82	44.75	46.32	48.80	50.84	7 29 46.51	63.4	62.5	65.4	57.4	213 17 62.17	41.520	30.012	53.2	53.2
	42	α Ursæ Majoris	C.	37.61	43.06	47.85	52.50	58.06	10 52 47.82	57.8	54.4	55.4	56.8	156 14 56.10	VII. 34.575	30.066	48.1	38.5
	43									60.4	57.2	60.0	57.8					
	44	Nadir	- -	- -	- -	- -	- -	- -	- - -	60.4	57.7	60.0	57.8	359 59 58.97	39.526	- -	- -	- -
	45									60.1	57.6	60.7	58.0		39.538			
	46	δ Hydræ et Crateris	- -	- -	- -	- -	- -	- -	- - -	59.3	56.4	60.0	52.8	232 50 57.12	40.062	30.076	48.1	39.0

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Feb. 26	7	+ 94.04	+ 0.012	+ 0.495	− 0.227	+ 0.324
26	7½	+ 94.04	+ 0.010	+ 0.495	− 0.227	+ 0.324
Mar. 4	7	+ 97.92	+ 0.025	+ 0.495	− 0.227	+ 0.324
11	9	+102.92	+ 0.028	+ 0.495	− 0.227	+ 0.324

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″	J. M.	
1												
2	- - -	- -	- - -	- - -	- - - -	39.671	- - -	- - - -	- -	- -		
3												
4	0.92	93.64	- - -	- - -	- - - -	- -	5 34 15.53	- - - -	— 2.44	- -		
5	0.72	93.64	+ 32.40	+ 36.62	211 31 13.84	- -	5 47 6.48	+ 7 22 15.41	— 3.36	+ 8.57		
6	0.19	93.64	- - -	- - -	- - - -	- -	18 20 16.23	- - - -	+27.36	- -		6. Observed with East clock.
7	0.88	93.64	- - -	- - -	- - - -	- -	6 29 14.42	- - - -	—40.86	- -		7. Observed with East clock.
8	0.88	93.64	- - -	- - -	- - - -	- -	6 52 46.64	- - - -	— 3.06	- -		
9	+ 0.71	93.64	- - -	- - -	- - - -	- -	8 38 55.43	- - - -	— 3.99	- -		
10												
11												
12	+ 4.25	+ 94.00	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		12. Observed with East clock. Between transits C and D made a better adjustment of focus.
13												
14	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
15												
16	- -	-	- - -	- - -	- - - -	39.742	- - -	- - - -	- -	- -		
17												
18	0.64	94.04	- - -	- - -	- - - -	- -	7 36 12.01	- - - -	— 3.73	- -		
19	0.61	94.04	— 1 40.35	— 0.80	179 13 18.05	- -	7 45 52.12	+39 40 21.20	— 4.81	+10.21		19. Good observation.
20	0.62	94.04	+ 2.98	+ 2.30	182 12 7.45	- -	7 46 17.89	36 41 31.80	- -	- -		20. Good observation.
21	0.71	94.05	— 1 33.42	+ 37.32	211 56 3.20	- -	8 38 53.81	6 57 36.05	— 3.99	+21.38		
22	0.60	94.05	— 1 27.43	— 10.27	170 16 20.92	- -	8 48 59.77	48 37 18.35	— 5.23	+15.03		
23	0.69	94.05	+ 7.60	+ 14.39	193 30 19.37	- -	55.79	25 23 19.88	- -	- -		
24	0.67	94.05	— 1 25.89	+ 14.75	193 49 46.28	- -	9 22 56.38	25 3 52.97	- -	- -		
25	0.69	94.05	— 1 10.82	+ 14.78	193 50 2.11	- -	9 29 3.43	25 3 37.14	- -	- -		
26												
27	- -	- -	- - -	- - -	- - - -	39.684	- - -	- - - -	- -	- -		
28												
29	0.72	97.93	— 55.69	+ 39.33	213 17 44.81	- -	7 31 30.46	5 35 54.44	— 3.63	+18.70		
30	- -	- -	+ 21.03	+ 10.92	190 30 48.35	- -	- - -	28 22 51.90	- -	+11.68		
31	0.99	97.94	+ 33.46	+ 1 53.65	242 46 36.88	- -	8 1 12.88	—23 52 57.63	— 3.42	+25.02		
32	+ 0.71	97.96	— 1 26.99	+ 36.71	211 56 3.72	- -	8 38 53.42	+ 6 57 35.53	— 3.95	+21.50		
33	- -	- -	+ 1 19.42	— 10.11	170 16 19.63	- -	- -	48 37 19.62	— 5.17	+13.91		
34												
35	- -	- -	- - -	- - -	- - - -	39.697	- - -	- - - -	- -	- -		
36												
37	— 44.12	102.85	- - -	- - -	- - - -	- -	6 31 3.40	- - - -	—35.44	- -		37. Observed with East clock.
38	- -	- -	— 38.46	+ 1 23.63	235 24 49.87	- -	- - -	—16 31 10.62	- -	+21.45		
39	+ 0.67	102.88	— 49.01	17.36	196 38 34.70	- -	7 11 13.26	+22 15 4.55	— 3.92	+10.92		39. Fine observation.
40	— 1.96	102.88	— 1 11.34	6.81	186 41 3.34	- -	7 25 5.11	+32 12 35.91	— 4.21	+ 9.03		
41	+ 0.72	102.88	— 57.78	37.95	213 17 42.24	- -	7 31 30.11	5 35 57.01	— 3.53	+18.81		
42	0.61	102.97	+ 5 54.65	— 26.18	156 20 42.57	- -	10 54 31.50	+62 33 14.68	— 5.61	+20.77		
43												
44	-	- -	- -	- - -	- - - -	39.561	- -	- - - -	- -	- -		
45												
46	- -	- -	— 17.13	1 18.67	232 51 8.66	- -	- -	—13 57 29.41	- -	+26.53		46. Unsteady.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Mar. 13	1		A.	22.00	9.00	28.00	48.00	31.00										
	2		B.	54.00	17.00	55.00	33.00	4.50										
	3	Polaris	C.	15.00	37.00	54.00	21.00	42.00	1 3 54.86	-	-	-	-	- - - -	- - - -	-	-	-
	4		D.	57.00	36.00	57.00	21.00	4.00										
	5		E.	26.00	31.00	11.00	52.00	6.00										
	6	α Tauri	C.	33.85	36.07	38.30	40.48	42.66	4 27 38.27	-	-	-	-	- - - -	- - - -	-	-	-
	7									58.5	53.6	55.5	53.7					
	8	Nadir		- -	-	- -	- -	- -	- - -	57.6	54.4	56.0	54.8	359 59 55.28	39.542	-	-	- -
	9									57.0	53.4	55.4	53.5		39.547			
	10	β Orionis	C.	34.34	36.24	38.65	40.88	43.00	5 5 38.62	-	-	-	-	- - - -	- - - -	-	-	-
	11	β Tauri	C.	3.80	6.30	8.60	11.03	13.50	5 15 8.65	58.8	59.7	61.2	53.5	190 23 58.30	VII. 43.275	30.072	57.7	59.3
	12	δ Orionis	C.	35.45	37.77	39.82	42.04	44.13	39.84	59.9	58.4	61.6	53.7	219 20 58.40	45.050	30.078	58.0	58.4
	13	α Columbæ	C.	26.32	28.86	31.38	33.98	36.48	31.40	61.8	58.0	63.5	57.7	253 2 60.25	44.327	30.070	57.8	58.3
	14	α Orionis	C.	18.35	20.58	22.47	24.83	26.88	5 45 22.62	61.5	59.7	64.2	54.0	211 32 59.85	43.640	30.078	57.5	58.3
	15	δ Ursæ Minoris S.P.	C.	29.00	4.00	40.50	14.50	53.00	6 18 40.20	64.3	59.7	58.0	55.7	125 29 59.42	38.708	30.080	57.8	58.0
	16	51 (Hev.) Cephei	C.	51.50	37.30	20.00	7.00	49.30	6 29 21.02	63.0	61.2	57.7	57.7	131 38 59.90	39.467	30.092	57.5	57.7
	17	α Canis Majoris	C.	46.85	49.30	51.50	53.67	55.86	6 36 51.44	13.4	6.8	11.4	4.5	235 24 9.02	40.935	- -	- -	57.0
	18	ε Canis Majoris	C.	58.09	0.59	3.05	5.29	7.59	6 53 2.92	55.0	44.4	52.8	45.5	247 38 49.42	41.218	30.092	57.5	54.5
	19	68 Geminorum	C.	18.43	20.80	22.86	25.10	27.43	7 25 22.92	63.9	60.8	55.7	57.4	202 41 59.45	V. 39.947	30.098	56.5	49.8
	20	κ Geminorum	C.	- -	-	43.52	45.97	48.37	7 35 45.95	64.3	62.8	64.1	58.5	194 8 62.42	40.755	30.098	56.1	49.1
	21									62.5	58.3	61.7	60.3					
	22	Nadir		- -	- -	- -	- -	-	- - -	62.8	58.5	61.0	59.4	359 59 60.56	39.738	- -	- -	- -
	23	Moon, I. & N.	C.	54.30	56.70	58.95	1.50	3.60	8 25 59.01	-	-	-	-	- - - -	- - - -	30.116	55.0	46.2
	24	δ Cancri	C.	- -	25.08	27.49	29.61	31.72	8 34 28.47	61.3	57.7	63.4	52.5	200 10 58.72	38.882	30.118	54.4	45.5
	25	α Cancri	C.	32.51	35.04	37.15	39.20	41.38	8 50 37.06	60.0	59.4	66.3	54.4	206 23 60.02	VII. 38.922	30.116	54.0	44.7
	26	Metis	C.	4.69	7.11	9.90	12.11	14.76	9 10 9.71	-	-	-	-	- - - -	- - - -	- -	- -	- -
24	27	δ Leonis	C.	18.09	20.28	22.52	24.73	26.87	11 6 22.50	-	-	-	-	- - - -	- - - -	- -	-	- -
	28	δ Hydræ et Crateris	C.	1.20	3.55	5.79	7.86	10.09	11 10 5.70	-	-	-	-	- - - -	- - - -	- -	- -	- -
	29	γ Cephei S. P.	C.	5.50	14.20	23.20	33.30	42.40	11 33 23.72	-	-	-	-	- - - -	- - - -	- -	- -	- -
	30	β Leonis	C.	34.89	37.12	39.27	41.37	43.65	11 41 39.26	-	-	-	-	- - - -	- - - -	- -	-	- -
26	31	β Tauri	C.	55.43	57.98	0.40	2.76	5.21	5 17 0.36	-	-	-	-	- - - -	- - - -	- -	- -	- -
	32	δ Orionis	C.	27.39	29.57	31.53	33.78	35.90	5 24 31.63	-	-	-	-	- - - -	- - - -	- -	- -	- -
	33	α Leporis	C.	12.82	15.29	17.30	19.62	21.75	5 26 17.36	-	-	-	-	- - - -	- - - -	- -	- -	- -
	34	ε Orionis	C.	42.90	45.08	47.10	49.40	51.40	5 28 47.18	-	-	-	-	- - - -	- - - -	- -	- -	- -
	35	α Orionis	C.	9.92	12.22	14.28	16.36	18.59	5 47 14.27	-	-	-	-	- - - -	- - - -	- -	- -	- -
	36	μ Geminorum	C.	0.09	2.49	4.65	7.06	9.28	6 14 4.71	-	-	-	-	- - - -	- - - -	- -	- -	- -
	37	α Canis Majoris	C.	38.36	40.90	42.98	45.28	47.54	6 38 43.01	-	-	-	-	- - - -	- - - -	- -	- -	- -
28	38	α Tauri	C.	39.52	41.89	44.07	46.19	48.45	4 27 44.02	-	-	-	-	- - - -	- - - -	- -	- -	- -
	39	β Leonis	C.	28.92	31.53	33.60	35.88	38.29	11 6 33.64	-	-	-	-	- - - -	- - - -	- -	- -	- -
	40	δ Hydræ et Crateris	C.	12.23	14.49	16.71	18.87	20.87	11 11 16.63	-	-	-	-	- - - -	- - - -	- -	- -	- -
	41	γ Cephei S. P.	C.	15.50	- -	34.50	42.30	53.00	11 32 36.32	-	-	-	-	- - - -	- - - -	- -	-	- -
April 4	42									60.0	54.9	56.9	56.0					
	43	Nadir		- -	- -	- -	- -	- -	- - -	59.7	55.0	55.5	55.5	359 59 56.70	39.652	- -	- -	- -
	44									59.2	55.9	56.0	55.8		39.651			
	45	ε Leonis	C.	0.96	3.40	5.78	8.05	10.41	9 37 5.72	59.3	57.7	56.8	55.4	194 26 57.30	41.572	30.030	61.4	54.0
	46	α Leonis	C.	4.25	6.54	8.60	10.76	12.78	10 0 8.59	60.0	57.0	58.9	53.0	206 11 57.22	40.365	30.022	61.4	52.8
9	47	α Tauri	C.	51.63	53.79	56.18	58.34	0.51	4 26 56.09	-	-	-	-	- - - -	- - - -	- -	-	- -
	48	α Aurigæ	C.	8.61	11.80	14.65	17.75	20.75	5 5 14.71	-	-	-	-	- - - -	- - - -	- -	- -	- -
	49	β Orionis	C.	52.14	54.39	56.45	58.57	0.77	5 6 56.46	-	-	-	-	- - - -	- - - -	- -	- -	- -
	50	β Tauri	C.	21.24	23.94	26.10	28.55	31.06	5 16 26.18	-	-	-	-	- - - -	- - - -	- -	- -	- -
	51	α Orionis	C.	35.92	38.10	40.23	42.39	44.52	5 46 40.23	-	-	-	-	- - - -	- - - -	- -	-	- -

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Mar. 13	9	+102.87	+ 0.000	+ 0.495	− 0.227	+ 0.324
24	11½	− 11.48	- -	+ 0.402	− 0.112	+ 0.217
26	6	− 8.80	- -	+ 0.402	− 0.112	+ 0.217
28	11	− 22.88	- -	+ 0.402	− 0.112	+ 0.217
April 4	10	+ 17.42	- -	+ 0.402	− 0.112	+ 0.217

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings..	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1											J. M.	
2												
3	4.25	102.87	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		3. A little unsteady. Observed with East clock.
4												
5												
6	0.69	102.87	- - -	- - -	- - - -	- -	4 29 21.83	- - - -	— 2.85	-		
7												
8	- -	- -	- - -	- - -	- - - -	39.681	- - -	- - - -	- -	- -		
9												
10	0.80	102.87	- - -	- - -	- - - -	- -	5 7 22.29	- - - -	— 2.52	- -		
11	0.67	102.87	+ 56.13	+ 10.54	190 25 4.97	- -	5 16 52.19	+28 28 34 28	— 3.45	— 0.81		
12	0.75	102.87	— 3 3.87	47.69	219 18 42.22	- -	5 24 23.46	— 0 25 2.97	— 2.83	+ 9.55		
13	0.92	102.87	— 2 39.12	3 5.63	253 3 36.76	- -	5 34 15.19	—34 9 57.51	— 2.05	+19.26		
14	0.72	102.87	— 2 15.59	35.21	211 31 19.47	- -	5 47 6.21	+ 7 22 19.78	— 3.09	+ 8.81		
15	0.19	102.87	+ 33.32	— 1 20.42	125 29 12.32	- -	18 20 23.26	86 35 33.07	+22.07	+12.61		15. A little unsteady. Observed with East clock.
16	0.88	102.87	+ 7.33	— 1 4.61	131 38 2.62	- -	6 31 4.77	87 15 36.63	—34.68	—10.77		
17	0.81	102.87	— 42.95	+ 1 23.32	235 24 49.30	- -	6 38 35.12	—16 31 10.14	— 2.82	+21.51		16. A little unsteady. Observed with East clock.
18	0.88	102.87	— 52.64	+ 2 19.77	247 40 16.55	- -	6 54 46.67	—28 46 37.30	— 2.75	+23.73		
19	0.68	102.87	— 3 3.65	+ 24.37	202 39 20.17	- -	7 27 6.47	+16 14 19.08	— 3.80	+13.80		
20	— 1.73	102.87	— 36.78	+ 14.74	194 8 40.38	- -	7 37 27.09	+24 44 58.87	— 4.04	+12.11		
21												
22	- -	- -	- - -	- - -	- - - -	39.722	- - -	- - - -	- -	- -		
23	+ 0.68	+102.87	- - -	- - -	- - - -	- -	8 28 55.28	- - - -	- -	- -		23. At wires III. and IV. the West Transit and Meridian Circle marks occur at the same precise instant, and only one is recorded. See Transit Observations.
24	— 0.42	102.87	+ 28.77	+ 21.70	200 11 49.19	- -	8 36 10.92	+18 41 50.06	— 4.07	+18.73		
25	+ 0.72	102.87	+ 3 26.63	+ 29.40	206 27 56.05	- -	8 52 20.75	+12 25 43.20	— 3.99	+20.96		
26	0.70	102.87	- - -	- - -	- - - -	- -	9 11 53.28	- - - -	- -	- -		
27	0.49	— 11.48	- - -	- - -	- - - -	- -	11 6 11.51	- - - -	— 4.19	- -		
28	0.55	11.48	- - -	- - -	- - - -	- -	11 11 54.77	- - - -	— 4.12	- -		
29	— 0.42	11.48	- - -	- - -	- - - -	- -	23 33 11.82	- - - -	+ 1.89	- -		29. Observed with East clock.
30	0.49	11.48	- - -	- - -	- - - -	- -	11 41 28.27	- - - -	— 4.05	- -		
31	0.52	8.82	- - -	- - -	- - - -	- -	5 16 52.06	- - - -	— 3.19	-		
32	0.54	8.81	- - -	- - -	- - - -	- -	5 24 23.36	- - - -	— 2.60	- -		
33	0.57	8.81	- - -	- - -	- - - -	- -	5 26 9.09	- - - -	— 2.18	- -		
34	0.54	8.81	- - -	- - -	- - - -	- -	5 28 38.91	- - - -	— 2.59	- -		
35	0.53	8.80	- - -	- - -	- - - -	- -	5 47 6.00	- - - -	— 2.86	- -		
36	0.52	8.80	- - -	- - -	- - - -	- -	6 13 56.43	- - - -	— 3.39	- -		
37	0.57	8.79	- - -	- - -	- - - -	- -	6 38 34.79	- - - -	— 2.57	- -		
38	0.52	22.88	- - -	- - -	- - - -	- -	4 27 21.66	- - - -	— 2.61	- -		
39	0.52	22.70	- - -	- - -	- - - -	- -	11 6 11.46	- - - -	— 4.18	- -		
40	0.57	22.69	- - -	- - -	- - - -	- -	11 10 54.52	- - - -	— 4.11	- -		
41	— 2.28	— 22.68	- - -	- - -	- - - -	- -	23 32 11.36	- - - -	+ 1.79	- -		41. Observed with East clock.
42												
43	- -	- -	- - -	- - -	- - - -	39.753	- - -	- - - -	- -	- -		
44												
45	+ 0.52	+ 17.37	— 1 2.30	+ 14.87	194 26 9.87	- -	9 37 23.61	+24 27 29.38	— 4.05	+19.19		
46	0.53	17.42	— 20.96	+ 28.50	206 12 4.76	- -	10 0 26.54	+12 41 34.49	— 3.89	+23.10		
47	0.85	24.57	- - -	- - -	- - - -	- -	4 27 21.41	- - - -	— 2.45	- -		
48	0.81	24.62	- - -	- - -	- - - -	- -	5 5 40.14	- - - -	— 3.33	- -		
49	0.95	24.62	- - -	- - -	- - - -	- -	5 7 22.03	- - - -	— 2.06	- -		
50	0.85	24.63	- - -	- - -	- - - -	- -	5 16 51.66	- - - -	— 2.94	- -		
51	0.90	24.67	- - -	- - -	- - - -	- -	5 47 5.80	- - - -	— 2.62	- -		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	34.71	36.98	39.50	42.33	44.70										
April 9	2	α Canis Majoris	C.	4.47	6.61	8.75	10.99	13.22	6 38 8.81	-	-	-	-	- - - -	- - - -	- -	- -	- -
	3		D.	32.96	35.82	38.04	40.18	42.94										
	4	ε Canis Majoris	C.	46.65	49.60	51.98	54.42	57.55	6 52 52.04	-	-	-	-	- - - -	- - - -	- -	- -	- -
	5		D.	19.00	3.50	24.50	49.00	25.00										
22	6	Polaris S. P.	C.	39.50	1.00	24.50	45.00	7.00	13 3 22.80	-	-	-	-	- - - -	- - - -	- -	- -	- -
	7		B.	13.00	44.00	22.00	3.00	22.00										
	8	η Bootis	C.	43.72	46.10	48.11	50.48	52.50	13 46 48.18	-	-	-	-	- - - -	- - - -	- -	- -	- -
	9		A.	57.91	1.11	4.88	8.41	11.32										
	10		B.	29.87	32.15	35.02	37.58	40.20										
	11	α Bootis	C.	0.26	2.60	4.88	7.11	9.25	14 8 4.67	-	-	-	-	- - - -	- - - -	- -	- -	- -
	12		D.	29.55	32.15	34.41	36.71	39.45										
	13		E.	58.10	1.55	4.36	7.22	10.80										
	14		A.	50.00	34.00	51.00	11.00	57.00										
	15		B.	15.00	36.00	14.00	56.00	26.00										
	16	Polaris	C.	32.00	55.00	15.00	40.50	58.00	1 3 13.02	-	-	-	-	- - - -	- - - -	- -	- -	- -
	17		D.	12.00	52.00	14.00	34.00	17.00										
	18		E.	40.00	45.00	23.00	0.00	18.00										
May 6	19	Nadir	- -	- -	- -	- -	- -	-	- - -	7.9	0.0	6.0	4.2	0 0 4.69	39.949	- -	- -	- -
	20									7.9	0.1	6.3	5.1					
	21		E.	22.00	41.00	16.50	58.00	5.00	- - -	67.9	58.8	59.7	60.4	- - - -	- - - -	30.062	52.8	42.7
	22		D.	22.00	7.00	29.00	50.00	27.00										
	23	Polaris S. P.	C.	39.00	1.00	27.00	45.00	10.00	13 3 27.34	-	-	-	-	- 124 39 2.12	- - - -	- -	- -	- -
	24		B.	16.00	45.00	25.00	5.00	23.00										
	25		A.	45.00	31.00	46.00	2.00	46.00	4.40	67.4	60.4	60.4	62.0	- - - -	- - - -	30.060	52.8	42.8
	26		A.	- -	- -	- -	8.00	55.00										
	27		B.	- -	34.00	17.00	57.50	25.00										
	28	Polaris	C.	31.00	53.00	11.00	38.00	56.00	1 0 20.24	-	-	-	-	- - - -	- - - -	- -	- -	- -
	29		D.	13.00	49.00	12.00	34.00	18.00										
	30		E.	34.00	- -	- -	3.00	16.00										
	31		A.	59.68	3.68	9.52	14.52	18.78										
	32		B.	45.79	48.93	53.11	56.91	0.52										
7	33	α Persei	C.	- -	- -	35.16	38.95	42.37	3 12 36.05	-	-	-	-	- - - -	- - - -	- -	- -	- -
	34		D.	11.48	15.44	18.86	21.02	25.20										
	35		E.	52.67	57.86	1.79	5.90	10.99										
	36		B.	46.98	49.23	51.84	54.44	56.84										
	37	α Leonis	C.	16.14	18.33	20.57	22.69	25.00	9 59 20.56	-	-	-	-	- - - -	- - - -	- -	- -	- -
	38		D.	44.34	47.10	49.23	51.40	54.22										
8	39	Polaris	C.	29.00	53.00	15.00	37.00	58.00	1 3 14.40	-	-	-	-	- - - -	- - - -	- -	- -	- -
26	40	Polaris S. P.	C.	38.00	58.00	21.00	39.00	4.00	13 3 20.00	-	-	-	-	- - - -	- - - -	- -	- -	- -
	41		B.	5.78	8.03	10.67	13.33	15.70										
	42	α Virginis	C.	34.76	36.95	39.20	41.34	43.50	13 14 39.16	-	-	-	-	- - - -	- - - -	- -	- -	- -
	43		D.	2.82	5.55	7.60	9.75	12.46										
	44		B.	- -	- -	14.92	18.64	22.28										
	45	μ Ursæ Majoris	C.	51.51	55.15	58.13	1.62	4.97	13 40 5.87	-	-	-	-	- - - -	- - - -	- -	-	- -
	46		D.	34.47	38.52	41.76	45.06	49.24										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
April 9	5	+ 24.62	+ 0.058	+ 0.652	− 0.210	+ 0.345
22	14	+ 47.56	+ 0.040	+ 0.652	− 0.210	+ 0.345
May 6	0	- - -	- -	+ 0.652	− 0.210	+ 0.345
7	6	+ 64.67	+ 0.048	+ 0.652	− 0.210	+ 0.345
8	6	- - -	- -	+ 0.652	− 0.210	+ 0.345

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	+ 0.98	+ 24 69	- - -	- - -	- - - -	- -	6 38 34.48	- - - -	— 2.30	- -	J. M.	
3												
4	+ 1.08	24.71	- - -	- - -	- - - -	- -	6 53 17.83	- - - -	— 2.14	- -		4. Probably a different set.
5												
6	— 1.51	81.52	- - -	- -	- - - -	- -	13 4 42.81	- - - -	+18.04	- -		6. Observed with East clock. Reduction to West clock = +34ˢ.30.
7												
8	+ 0.53	47.55	- - -	- - -	- - -	- -	13 47 36.26	- - - -	— 4.09	- -		
9												
10												
11	+ 0.94	47.56	- - -	- - -	- - - -	- -	14 8 53.19	- - - -	— 3.95	- -		
12												
13												
14												
15												
16	+ 5.86	+ 82.30	- - -	- - -	- - - -	- -	1 4 41.18	- - - -	+17.94	- -		16. Observed with East clock. Reduction to West clock = +34ˢ.30.
17												
18												
19												
20	- -	- -	- - -	- - -	- - - -	39.813	- - -	- - - -	- -	- -		
21	-	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
22												
23	— 4.66	- -	- - -	— 1 25.31	- - - -	- -	- - -	- - - -	- -	- -		
24												
25	-	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
26												
27												
28	—202.64	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		28. Interrupted by clouds. Observed with East clock. Reduction to West clock = +22ˢ.36.
29												
30												
31												
32												
33	+ 0.36	+ 64.53	- - -	- - -	- - - -	- -	3 13 40.94	- - - -	— 2.62	- -		
34												
35												
36												
37	+ 0.87	64.85	- - -	- - -	- - - -	- -	10 0 26.28	- - - -	— 3.48	- -		
38												
39	+ 2.81	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		39. Observed with East clock. Reduction to West clock = +19ˢ.80.
40	— 1.52	101.70	- - -	- - -	- - - -	- -	13 5 0.16	- - - -	+ 1.86	- -		40. Observed with East clock. Reduction to West clock = —0ˢ.52.
41												
42	+ 1.34	101.71	- - -	- - -	- - - -	- -	13 16 22.21	- - - -	— 4.38	- -		
43												
44												
45	— 6.40	+101.74	- - -	- - -	- - - -	- -	13 41 41.21	- - - -	— 3.78	- -		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	3.60	6.50	10.35	14.04	16.90										
	2		B.	35.50	37.86	40.37	43.19	45.64										
May 26	3	α Bootis	C.	5.72	8.15	10.22	12.62	14.70	14 7 10.21	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	35.02	37.76	39.90	42.27	45.11										
	5		E.	3.65	7.12	10.02	12.60	16.34										
	6	Polaris	C.	27.50	54.00	11. 5	33.00	51.50	1 3 11.50	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	7		B.	15.76	18.06	20.64	23.35	25.78										
June 4	8	α Canis Majoris	C.	45.44	47.75	49.98	52.17	54.29	6 36 49.94	- -	- -	- -	- -	- - - -	-	- -	- -	- -
	9		D.	14.29	16.88	19.20	21.31	24.20										
	10		B.	12.50	14.74	17.19	19.85	22.19										
	11	α Canis Minoris	C.	41.12	43.27	45.49	47.54	49.77	7 29 45.40	- -	- -	- -	- -	- - -	- - - -	- -	- -	- -
	12		D.	8.75	11.34	13.50	15.60	18.18										
	13	Nadir	- -	- -	- -	- -	- -	- -	- - -	64.9	55.9	60.9	61.0	0 0 0.61	39.854	- -	- -	- -
	14									64.5	55.7	61.8	60.2					
	15		B.	18.94	21.34	24.18	26.92	29.58										
	16	4 Libræ	C.	50.11	52.43	54.91	57.31	59.53	14 34 54.88	60.0	48.4	54.5	53.5	243 14 54.10	42.340	30.041	69.5	66.2
	17		D.	20.35	23.25	25.58	27.92	30.80										
	18		A.	50.32	53.25	57.22	1.08	4.11										
	19		B.	23.22	25.63	28.53	31.32	33.76										
	20	12 Libræ	C.	54.27	56.63	59.10	1.46	3.69	14 45 58.97	62.0	50.4	54.8	53.4	242 47 55.15	V. 34.850	30.044	69.8	65.9
	21		D.	24.40	27.30	29.67	31.90	34.95										
	22		E.	54.14	57.67	0.49	3.18	6.96										
	23		A.	32.80	36.81	40.95	43.83	- -										
	24		B.	- -	- -	8.85	11.69	14.35										
	25	α Coronæ Borealis	C.	35.43	37.81	40.30	42.71	45.09	15 26 45.85	- -	- -	- -	- -	- - - -	- - - -	- -	-	-
	26		D.	6.29	9.10	11.68	13.98	16.98										
	27		E.	33.54	36.61	40.35	43.40	46.16										
	28		B.	50.29	52.87	55.78	58.85	1.70										
	29	B. A. C. (5160)	C.	24.61	27.29	29.74	32.29	34.95	15 28 29.79	- -	- -	- -	- -	- - - -	- - - -	-	-	- -
	30		D.	58.04	1.18	3.69	6.21	9.30										
	31	ζ Ursæ Minoris	C.	19.10	28.13	36.47	46.34	54.25	15 49 36.86	- -	- -	- -	- -	- - -	- - - -	- -	- -	-
	32		A.	56.06	0.95	4.69	8.28	11.18										
	33		B.	29.70	31.94	34.69	37.42	39.89										
	34	β^1 Scorpii	C.	59.89	2.25	4.45	6.66	8.71	15 55 4.21	- -	- -	- -	- -	- - - -	- - - -	- -	-	-
	35		D.	28.98	31.63	33.94	36.22	39.00										
	36		E.	57.61	0.77	3.72	6.50	10.16										
7	37	Nadir	- -	- -	- -	- -	- -	- -	- - -	65.4	54.8	58.5	62.2	359 59 60.16	39.811	-	- -	- -
	38									65.5	54.3	59.0	61.6					
	39		A.	45.14	47.83	51.65	55.23	57.84										
	40		B.	15.87	17.98	20.68	23.28	25.58										
	41	Moon, I. & N.	C.	44.98	47.18	49.39	51.60	53.74	12 17 49.30	25.9	10.7	15.0	13.4	216 15 16.25	IV. 41.128	29.692	75.5	75.0
	42		D.	13.19	15.88	18.14	20.29	22.80	- - -	- -	- -	- -	- -	- - - -	- - -	- -	- -	-
	43		E.	40.94	44.02	46.71	49.49	53.08										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
May. 26	14	+101.75	+ 0.045	+ 0.993	− 0.237	+ 0.381
June 4	10	+102.64	0.000	+ 0.993	− 0.237	+ 0.381
4	15	+102.64	0.000	+ 0.993	− 0.237	+ 0.381
7	13	− 16.15	+ 0.070	+ 0.993	− 0.237	+ 0.381

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 1.31	+101.75	- - -	- -	- - - -	- -	14 8 53.27	- - - -	− 4.00	- -	J. M.	
4												
5												
6	+ 3.50	+102.20	- - -	- - -	- - - -	- -	1 4 56.52	- - - -	+ 1.50	- -		6. Observed with East clock. Reduction to West clock = −0s.68.
7												
8	+ 1.36	+102.64	- - -	- - -	- - - -	- -	6 38 33.94	- - - -	− 1.68	- -		
9												
10												
11	+ 1.27	102.64	- - -	- - -	- - - -	- -	7 31 29.31	- - - -	− 2.42	- -		
12												
13												
14	- -	- -	- - -	- - -	- - - -	39.836	- - -	- - - -	- -	- -		
15												
16	+ 1.42	102.64	− 1 25.76	+ 1 51.40	243 15 19.74	- -	14 36 37.94	−24 21 40.49	− 5.14	+21.23		
17												
18												
19												
20	+ 1.41	102.64	− 3.76	+ 1 49.45	242 49 40.84	- -	14 47 42.02	−23 56 1.59	− 5.18	+19.96		
21												
22												
23												
24												
25	− 4.30	102.64	- - -	- - -	- - - -	- -	15 28 24.19	- - - -	− 4.11	- -		
26												
27												
28												
29	- -	102.64	- - -	- -	- - -	- -	- - -	- - - -	- -	- -		
30												
31	+ 1.32	102.64	- - -	- - -	- - - -	- -	15 51 20.82	- - - -	− 2.86	- -		
32												
33												
34	+ 1.48	+102.64	- - -	- - -	- - - -	- -	15 56 48.33	- - - -	− 5.13	- -		
35												
36												
37												
38	- -	- -	- - -	- - -	- - - -	39.806	- - -	- - - -	- -	- -		
39												
40												
41	+ 1.37	− 16.20	−10 0.07	−17 50.02	215 47 26.66	- -	12 18 41.38	+ 3 6 13.09	- -	- -		41. Semidiameter +66.91. Observed for Decl. at 19m 37s, West clock Time. Microscope A indistinct.
42	- -	- -	−10 0.07	- - -	- - - -	- -	- - -	- - - -	- -	- -		
43												

DATE.	Number.	OBJECTS.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	19.62	22.35	25.81	29.41	32.09										
	2		B.	49.75	51.69	54.50	56.96	59.25										
June 7	3	γ Virginis	C.	17.98	20.08	22.39	24.50	26.61	12 34 8.23	- -	- -	- -	- -	- - -	- - - -	- -	- -	- -
	4		D.	45.60	48.10	50.33	52.46	55.12										
	5		D.	18.50	2.00	24.00	45.00	24.00										
	6	Polaris S. P.	C.	36.00	57.00	21.00	38.00	4.00	13 5 18.90	70.9	55.4	53.0	66.5	124 44 61.45	- - - -	29.708	74.5	72.5
	7		B.	8.00	37.00	17.00	56.00	16.00										
	8		B.	3.70	5.91	8.36	11.03	13.30										
	9		C.	32.56	34.74	36.80	39.08	41.25										
	10	α Virginis	D.	0.40	3.12	5.30	7.40	10.20	13 17 51.13	- -	- -	- -	- -	- - -	- - - -	- -	-	- -
	11		E.	27.86	31.14	33.88	36.66	40.00										
	12		A.	18.00	22.65	27.89	33.46	37.69										
	13		B.	4.98	8.27	12.33	16.34	19.90										
	14	η Ursæ Majoris	C.	49.10	52.61	55.90	59.28	2.41	13 41 55.75	- -	- -	- -	- -	- - -	- - - -	- -	- -	- -
	15		D.	32.05	36.02	39.40	42.72	46.65										
	16		E.	13.98	19.10	23.27	27.21	32.47										
	17	α^2 Libræ	C.	50.56	52.66	54.87	57.10	59.42	14 42 54.92	- -	- -	- -	- -	- - -	- - - -	- -	- -	- -
	18									1.2	6.5	5.8	7.0					
10	19	Nadir	- -	- -	- -	- -	- -	- -	- - -	3.2	5.1	5.8	7.3	0 0 5.24	39.450	- -	- -	- -
	20		E.	23.00	39.00	17.00	59.00	6.00	- - -	4.0	10.7	7.8	5.7	- - - -	- - - -	- -	- -	- -
	21		D.	20.00	1.00	26.00	51.00	29.00										
	22	Polaris S. P.	C.	41.00	59.50	23.00	43.00	7.00	13 5 25.30	- -	- -	- -	- -	124 42 7.31	- - - -	30.142	73.8	69.5
	23		B.	12.00	41.00	20.00	1.00	21.00								30.146	73.7	68.8
	24		A.	42.00	26.00	41.50	49.50	44.00	- - -	4.4	11.5	8.7	5.7	- - - -	- - - -	- -	- -	-
	25		A.	56.41	59.29	2.88	6.94	9.77										
	26		B.	28.43	30.71	33.43	36.19	38.53										
	27	α Bootis	C.	58.61	0.88	3.11	5.44	7.67	14 9 3.02	10.4	16.2	18.6	12.4	198 57 14.40	42.240	30.144	72.0	68.2
	28		D.	27.89	30.67	32.76	35.03	37.92										
	29		E.	56.60	59.55	2.63	5.25	8.89										
	30		A.	- -	- -	- -	40.22	43.19										
	31		B.	3.03	5.45	8.33	11.30	13.82										
	32	Moon I. & N.	C.	35.13	37.60	39.93	42.41	44.75	15 0 49.05	- -	- -	- -	- -	- - - -	- - - -	30.146	70.2	66.2
	33		D.	6.13	9.12	11.53	13.95	16.90										
	34		E.	36.62	40.33	43.25	46.00	50.09										
	35	β Ursæ Minoris	C.	7.10	15.90	23.92	31.94	40.25	14 51 23.82	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	36	Anonymous	B.	10.68	13.49	16.07	18.80	21.25	15 43 31.17	6.0	10.9	14.5	9.9	230 21 10.32	41.275	30.150	69.5	64.7
	37		C.	41.52	44.19	46.66	48.40	50.60										
	38									2.5	11.8	13.2	11.3		39.883			
	39	Nadir	- -	- -	- -	- -	- -	- -	- -	6.5	11.9	13.5	11.9	0 0 10.26	39.895	- -	- -	- -
	40									2.0	12.9	13.6	12.0					
	41		D.	20.00	1.00	23.00	44.00	24.00	- - -	61.4	75.5	59.5	62.7					
14	42	Polaris S. P.	C.	38.00	59.00	21.00	40.50	4.50	13 2 16.39	- -	- -	- -	- -	124 38 64.66	- - - -	30.214	70.4	66.3
	43		B.	- -	39.50	17.50	58.00	19.50	- - -	61.4	74.4	58.9	63.5					

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
June 7 13	− 16.15	+ 0.070	+ 0.993	− 0.237	+ 0.381
10 14	− 11.18	+ 0.070	+ 0.993	− 0.237	+ 0.381
14 15	+ 26.85	+ 0.115	+ 0.993	− 0.237	+ 0.381

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	+ 15.41	− 16.18	- - -	- - -	- - - -	- -	12 34 7.46	- - - -	− 3.88	- -	J. M.	
3												
4												
5												
6	− 1.57	− 10.58	- - -	- - -	- - - -	- -	13 5 6.75	- - - -	− 6.61	- -		6. Very steady. Circle-reading indistinct. Observed with East clock. Reduction to West clock = +5s.57.
7												
8												
9												
10	− 12.87	− 16.13	- - -	- - -	- - - -	- -	13 17 22.13	- - - -	− 4.31	- -		
11												
12												
13												
14	+ 1.30	− 16.10	- - -	- - -	- - - -	- -	13 41 40.95	- - - -	− 3.60	- -		
15												
16												
17	+ 1.36	− 16.03	- - -	- - -	- - - -	- -	14 42 40.25	- - - -	− 4.89	- -		
18												
19	- -	- -	- - -	- - -	- - - -	39.298	- - -	- - - -	- -	- -		
20	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
21												
22	− 4.57	− 8.96	- - -	- - -	- - - -	- -	13 5 11.77	- - - -	− 8.98	- -		22. Very steady. Observed with East clock. Reduction to West clock = +2s.29.
23												
24	- -	-	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
25												
26												
27	+ 1.31	− 11.18	− 1 35.76	+ 19.35	198 55 57.99	39.445	14 8 53.15	+19 57 41.26	− 3.93	+15.82		
28												
29												
30												
31												
32	− 8.95	− 11.11	- - -	- - -	- - - -	- -	15 1 36.20	- - - -	- -	- -		32. Observed for Decl. at 2m 7s, West clock Time. Semi-diameter = 67s.21.
33												
34												
35	+ 1.30	− 11.12	- - -	- - -	- - - -	- -	14 51 14.00	- - - -	− 2.88	- -		
36												
37	+ 15.61	− 11.06	− 1 2.71	− 1 08.36	230 21 15.97	39.445	15 43 35.72	−11 27 36.72	-	- -		
38												
39	- -	- -	- - -	- - -	- - - -	39.591	- - -	- - - -	- -	- -		
40												
41												
42	+ 62.81	+ 26.62	- - -	- - -	- - - -	- -	13 5 18.76	- - - -	−12.40	- -		42. Observed with East clock. Reduction to West clock = +1m 33s.0.
43												

DATE	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	33.75	35.90	38.65	41.30	43.77										
	2		C.	3.68	5.80	8.15	10.40	12.58										
June 14	3	η Bootis	D.	32.82	35.69	37.90	40.20	42.94	13 47 23.06	- -	- -	- -	- -	- -	- - -	- -	- -	- -
	4		E.	1.25	4.89	7.69	10.18	13.73										
	5		A.	18.20	21.20	25.03	28.71	31.63										
	6		B.	50.37	52.52	55.40	57.97	0.50										
	7	α Bootis	C.	20.50	23.94	25.09	27.50	29.69	14 8 23.57	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	8		D.	49.12	52.44	54.89	57.29	.										
	9		E.	18.47	22.05	24.70	27.40	31.00										
	10		B.	38.19	40.45	43.09	45.70	48.09										
	11		C.	7.65	9.84	12.05	14.49	16.54										
	12	α^2 Libræ	D.	36.10	38.90	41.00	43.37	46.06	14 41 26.65	- -	- -	- -	-	- -	- -	- -	- -	- -
	13		E.	4.12	7.45	10.19	12.99	16.71										
	14		A.	48.85	57.90	11.19	24.59	34.88										
	15	β Ursæ Minoris	B.	42.05	49.86	59.94	9.45	18.32	14 46 59.27	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	16		C.	30.49	38.50	46.34	54.21	2.44										
	17		A.	30.00	32.83	36.12	39.78	42.39										
	18		B.	0.13	2.37	5.02	7.57	9.80										
	19	β Libræ	C.	28.97	31.00	33.37	35.50	37.67	15 8 32.23	-	- -	- -	- -	- - -	- -	- -	- -	- -
	20		D.	56.94	59.65	1.60	3.81	6.39										
	21		E.	24.00	27.39	29.93	32.56	35.97										
	22		A.	45.69	48.86	52.78	56.71	59.82										
	23		B.	19.59	21.90	24.82	27.61	30.24										
	24	α Coronæ Borealis	C.	51.43	54.00	56.34	58.80	0.85	15 27 56.20	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	25		D.	22.67	25.35	27.81	30.18	33.00										
	26		E.	52.75	56.29	59.34	2.03	6.03										
	27	Irene	- -	- -	-	- -	- -	- -	- - -	59.6	75.4	72.1	64.8	233 17 67.98	39.817	30.216	65.0	52.8
	28									59.5	78.2	68.5	68.1					
	29	Nadir	- -	- -	- -	- -	- -	- -	- - -	59.2	78.8	69.3	67.5	359 59 68.64	39.615	- -	- -	- -
	30	Vesta	- -	- -	- -	- -	- -	- -	- -	50.0	65.5	60.4	54.8	236 17 57.68	39.024	30.218	64.5	55.7
	31	Juno	- -	-	- -	- -	- -	- -	- - -	46.7	65.3	56.4	52.5	223 5 55.22	41.760	30.220	64.3	55.0
	32		A.	22.10	25.06	28.42	31.90	34.86										
	33		B.	52.35	54.54	57.03	2.12	4.55										
17	34	β Libræ	C.	21.00	23.20	25.30	27.64	29.82	15 8 25.57	8.8	27.1	19.1	13.8	227 45 17.20	44.392	30.452	65.2	55.4
	35		D.	48.95	51.50	53.77	55.88	58.45										
	36		E.	16.29	19.45	22.17	24.69	28.27										
	37		A.	38.00	41.08	45.03	49.00	51.86										
	38		B.	11.80	14.05	17.12	19.87	22.50										
	39	α Coronæ Borealis	C.	43.53	46.13	48.28	50.73	53.21	15 27 48.38	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	40		D.	14.64	17.49	19.78	22.30	25.32										
	41		E.	44.98	48.56	51.56	54.40	58.26										
	42		- -	- -	- -	- -	- -	- -	- - -	3.0	17.3	12.3	8.1	233 30 10.17	IX. 42.010	30.454	63.8	54.6
	43		A.	6.31	9.29	13.02	16.82	19.67										
	44		B.	38.24	40.46	43.37	45.91	48.40										
	45	β^1 Scorpii	C.	8.38	10.56	12.80	15.15	17.40	15 56 10.24	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	46		D.	37.58	40.27	42.46	44.71	47.77										
	47		E.	6.26	9.80	12.29	. .	18.77										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
June 14 15	+ 26.85	+ 0.115	+ 0.993	− 0.237	+ 0.381
17 16	+ 34.61	+ 0.100	+ 0.993	− 0.237	+ 0.381

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	s.		
1												
2												
3	— 13.64	+ 26.72	- - -	- - -	- - - - -	- -	12 27 36.14	- - - - -	— 3.84	- -	J. M.	
4												
5												
6												
7	+ 2.79	26.75	- - -	- - -	- - - - -	- -	14 8 53.11	- - - - -	— 3.90	- -		
8												
9												
10												
11												
12	— 13.20	26.82	- - -	- - -	- - - - -	- -	14 41 40.27	- - - - -	— 4.87	- -		
13												
14												
15	+108.37	26.83	- - -	- - -	- - - - -	- -	14 49 14.47	- - - - -	— 2.69	- -		
16												
17												
18												
19	+ 1.41	26.86	- - -	- - -	- - - - -	-	15 9 1.50	- - - - -	— 4.80	-		
20												
21												
22												
23												
24	+ 1.29	+ 26.90	- - -	- - -	- - - - -	- -	15 28 24.39	- - - -	— 4.10	- -		
25												
26												
27	- -	- -	— 15.52	+ 1 18.07	233 19 10.53	- -	- - -	—14 25 31.28	- -	- -		
28												
29	- -	- -	- - -	- - -	- - - - -	39.364	- - -	- - - - -	- -	- -		
30	- -	- -	+ 11.64	+ 1 26.74	236 19 36.06	- -	- - -	—17 25 56.81	- -	- -		
31	- -	- -	— 1 22.06	+ 54.24	223 5 27.40	- -	- - -	— 4 11 48.15	- -	- -		
32												
33												
34	+ 1.41	+ 34.51	— 2 52.23	+ 1 4.18	227 43 29.15	- -	15 9 1.49	— 8 49 49.90	— 4.79	+15.35		34. Unsteady.
35												
36												
37												
38												
39	+ 1.29	+ 34.56	- -	- - -	- - - - -	- -	15 28 24.23	- - - - -	— 4.09	- -		
40												
41												
42	- -	- -	+10 8.59	+ 1 19.48	233 41 38.24	39.355	- - -	—14 47 58.99	- -	- -		
43												
44												
45	+ 4.08	+ 34.61	- - -	- - -	- - - - -	- -	15 56 48.93	- - - - -	— 5.34	- -		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	- -	58.27	1.82	5.44	8.04										
	2		B.	25.69	27.90	30.50	32.92	35.30										
June 17	3	δ Ophiuchi	C.	54.22	56.52	58.40	0.59	2.82	16 5 58.39	6.3	24.3	17.5	13.5	222 12 15.40	41.460	30.454	63.2	52.5
	4		D.	21.68	24.28	26.64	28.59	31.14										
	5		E.	48.61	51.90	54.60	57.05	- -										
	6		A.	32.90	35.97	40.00	43.94	46.88										
	7		B.	6.50	8.72	11.67	14.30	16.83										
	8	α Scorpii	C.	38.08	40.62	42.92	45.15	47.57	16 19 42.73	4.4	24.0	20.0	15.5	244 57 15.98	39.340	30.452	62.7	52.2
	9		D.	8.68	11.67	13.97	16.41	19.35										
	10		E.	38.74	42.30	45.26	47.95	51.88										
	11			- -	- -	- -	- -	- -	- - -	4.9	23.7	21.7	14.5	252 54 16.20	45.150	30.452	62.2	52.5
	12	Nadir		- -	- -	- -	- -	- -	- - -	4.7	26.3	18.5	15.9		39.833			
	13			- -	- -	- -	- -	- -	- - -	3.5	26.2	19.0	16.4	0 0 16.43	39.832	- -	- -	- -
	14			- -	- -	- -	- -	- -	- - -	4.7	26.3	19.4	16.3					
	15		A.	8.20	11.16	14.97	18.71	21.48										
	16		B.	40.28	42.50	45.18	47.90	50.29										
18	17	α Bootis	C.	10.53	12.70	15.00	17.20	19.42	14 8 14.90	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	18		D.	39.67	42.49	44.71	46.95	49.88										
	19		E.	8.48	11.89	14.56	17.38	21.02										
	20		A.	56.90	59.81	3.30	7.00	9.91										
	21		B.	28.02	30.18	32.79	35.43	37.97										
	22	α^2 Libræ	C.	57.43	- -	1.90	4.15	6.30	14 41 59.40	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	23		D.	26.10	28.75	30.92	33.17	35.96										
	24		E.	54.06	57.30	- -	2.54	6.40										
	25	β Ursæ Minoris	C.	19.33	27.41	34.99	43.63	51.80	14 50 35.43	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	26		A.	19.69	22.51	26.11	29.46	32.29										
	27		B.	50.04	51.94	54.61	57.36	- -										
	28	β Libræ	C.	18.81	20.98	23.09	25.05	27.40	15 8 23.97	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	29		D.	46.68	49.24	51.39	53.49	56.09										
	30		E.	13.86	17.12	19.85	22.30	25.85										
	31		A.	35.60	38.74	42.61	46.60	49.60										
	32		B.	9.32	11.87	14.68	17.59	20.18										
	33	α Coronæ Borealis	C.	41.47	43.92	46.28	48.65	50.87	15 27 46.12	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	34		D.	12.47	15.35	17.71	20.04	22.99										
	35		E.	42.73	46.44	49.29	51.96	56.05										
	36		A.	- -	37.95	41.44	44.95	47.74										
	37	Irene	B.	5.94	8.22	11.45	13.51	15.90	15 37 13.32	1.5	9.1	2.8	0.7	233 33 3.52	41.530	30.416	65.0	58.1
	38		C.	35.72	37.66	39.63	42.08	44.34										
	39		B.	27.09	29.10	31.88	34.48	36.97										
	40	Weisse XV. 845	C.	56.13	58.65	0.75	3.10	5.20	15 43 0.80	29.2	38.1	31.3	28.4	233 4 31.76	41.242	30.412	64.5	57.8
	41		D.	24.65	27.50	29.77	31.98	34.70										
	42		A.	3.78	6.79	10.47	14.12	16.98										
	43		B.	35.50	37.85	40.60	43.36	45.79										
	44	β^1 Scorpii	C.	5.71	8.04	10.27	12.48	14.62	15 56 10.16	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	45		D.	34.94	37.60	39.98	42.08	44.93										
	46		E.	3.40	6.92	9.64	12.33	15.90										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
June 17 16	+ 34.61	+ 0.100	+ 0.993	− 0.237	+ 0.381
18 15	+ 36.91	+ 0.100	+ 0.993	− 0.237	+ 0.381

1 rev. of mic = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 1.13	+ 34.62	− 1 11.93	+ 53.21	222 11 56.68	- -	16 6 31.88	− 3 18 17.43	− 4.86	+11.16	J. M.	3. Unsteady.
4												
5												
6												
7												
8	+ 1.53	+ 34.64	+ 0.51	+ 2 5.26	244 59 21.75	- -	16 20 18.90	−26 5 42.50	− 5.71	+ 9.32		
9												
10												
11	- -	- -	− 3 18.46	+ 3 8.27	252 54 6.01	- -	- - -	−34 0 26.76	- -	- -		
12												
13	- -	- -	- - -	- - -	- - - -	39.355	- - -	- - - -	- -	- -		
14												
15												
16												
17	+ 1.31	+ 36.82	- - -	- - -	- - - -	- -	14 8 53.03	. - -	− 3.87	- -		
18												
19												
20												
21												
22	+ 3.87	+ 36.88	- - -	- - -	- - - -	- -	14 42 40.15	- - - -	− 4.87	- -		
23												
24												
25	+ 1.31	36.89	- - -	- - -	- - - -	- -	14 51 13.63	- - - -	− 2.49	- -		
26												
27												
28	+ 8.44	36.92	- - -	- - -	- - - -	- -	15 9 1.33	- - - -	− 4.79	- -		
29												
30												
31												
32												
33	+ 1.29	+ 36.96	- - -	- - -	- - - -	- -	15 28 24.37	- - - -	− 4.08	- -		
34												
35												
36												
37	+ 27.09	36.97	− 1 13.82	+ 1 18.45	233 33 8.15	39.373	15 38 17.38	−14 39 28.90	- -	- -		
38												
39												
40	+ 1.37	36.98	− 1 4.01	+ 1 17.16	233 4 44.91	- -	15 43 39.15	−14 11 5.66	- -	- -		
41												
42												
43												
44	+ 1.48	+ 37.00	- - -	- - -	- - - -	- -	15 56 48.64	- - - -	− 5.34	- -		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									3.4	17.5	7.8	7.2		39.629			
June 18	2	Nadir		- -	- -	- -	- -	-	- - -	2.6	17.4	8.6	7.4	0 0 8.89	39.632	- -	- -	- -
	3									1.8	17.8	8.1	7.1					
	4		A.	13.81	16.40	20.05	23.65	26.35										
	5		B.	43.92	46.18	48.88	51.46	53.71										
24	6	β Libræ	C.	12.82	15.11	17.25	19.35	21.36	15 8 17.09	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	7		D.	40.58	43.23	45.47	47.66	50.28										
	8		E.	8.11	11.36	13.89	16.39	20.06										
	9		A.	2.18	4.24	6.92	9.66	12.16										
	10	Weisse, XV. 637	B.	31.60	33.75	35.85	37.94	40.31	15 32 34.27	61.9	66.4	60.2	58.0	233 56 61.62	39.900	- -	- -	- -
	11		C.	- -	2.80	5.11	7.29	9.94										
	12	Irene	B.	- -	6.79	8.60	12.00	- -	15 34 9.13	- -	- -	- -	- -	- - - -	43.100	30.050	74.2	68.4
	13		B.	29.90	32.24	34.94	37.60	40.05										
	14	β^1 Scorpii	C.	- -	2.40	4.70	6.94	9.03	15 56 4.94	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	15		D.	29.35	31.97	34.24	36.50	39.35										
	16		A.	- -	47.33	50.34	53.80	57.15										
	17		B.	17.66	19.69	22.30	24.73	26.96										
	18	Anonymous	C.	45.98	48.14	50.11	52.30	54.48	16 5 52.28	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	19		D.	13.57	16.15	18.30	20.49	23.07										
	20		E.	40.48	43.85	46.40	49.00	52.46										
	21		A.	24.69	27.94	31.89	35.73	38.73										
	22		B.	58.34	60.71	63.70	66.22	69.00										
	23	α Scorpii	C.	29.94	32.29	34.66	36.84	39.20	16 19 33.49	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	24		D.	- -	3.33	5.82	8.29	11.00										
	25		E.	30.49	34.28	37.14	39.80	43.79										
	26		B.	- -	- -	23.50	44.00	25.50										
	27		C.	40.00	59.00	22.50	42.00	6.50										
27	28	Polaris S. P.	D.	7.50	36.00	14.00	55.00	16.00	13 5 14.26	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	29		E.	35.00	19.50	- -	55.00	41.50										
	30		A.	1.04	3.95	7.63	11.22	13.90										
	31		B.	31.93	34.13	36.75	39.37	41.72										
	32	α Virginis	C.	0.87	2.98	5.23	7.35	9.41	13 12 5.05	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	33		D.	28.77	31.36	33.51	35.74	38.47										
	34		E.	56.04	59.50	62.19	64.78	68.32										
	35		A.	46.14	50.33	55.85	61.20	65.36										
	36		B.	32.26	36.07	39.99	44.10	47.81										
	37	η Ursæ Majoris	C.	17.11	20.37	23.78	27.24	30.38	13 39 22.09		- -	- -	- -	- -	- - - -	- -	-	- -
	38		D.	- -	3.83	7.28	10.68	14.72										
	39		E.	41.96	47.14	50.98	54.99	60.69										
	40		A.	-	- -	- -	- -	-										
	41		B.	44.89	49.69	52.45	54.98	- -										
	42	η Bootis	C.	14.85	17.17	19.36	21.67	23.93	13 46 36.63	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	43		D.	43.99	46.62	49.04	51.29	54.10										
	44		E.	12.60	16.10	18.67	21.32	25.10										
	45		A.	25.00	39.50	16.50	57.50	64.50										
28	46	Polaris S. P.	B.	23.00	5.00	26.00	49.50	28.50	12 47 22.21	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	47		C.	40.00	3.00	23.00	43.70	8.50										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
June 18	15	+ 36.91	+ 0.100	+ 0.993	− 0.237	+ 0.381
24	16	+ 42.76	+ 0.040	+ 0.993	− 0.237	+ 0.381
27	13½	+ 75.56	- -	+ 0.993	− 0.237	+ 0.381
28	0	- - -	- -	+ 0.993	− 0.237	+ 0.381

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- -	- - -	- - -	- - - -	39.373	- - -	- - - -	- -	- -	J. M.	
3												
4												
5												
6	+ 1.42	+ 42.72	- - -	- - -	- - - -	- -	15 9 1.23	- - - -	— 4.77	- -		
7												
8												
9												
10	+ 31.37	+ 42.74	— 18.05	+ 1 17.09	233 58 0.66	- -	15 33 48.38	—15 4 21.41	— 5.09	+13.35		
11												
12	+ 29.36	42.74	— 2 7.64	+ 1 16.98	233 56 10.96	- -	15 35 21.23	—15 2 31.71	- -	- -		
13												
14	+ 1.09	+ 42.76	- - -	- - -	- - - -	- -	15 56 48.79	- - - -	— 5.33	- -		
15												
16												
17												
18	- - -	- -	- - -	- - -	- - - -	- -	16 6	- - - -	- -	- -		
19												
20												
21												
22												
23	+ 2.59	+ 42.77	- - -	- - -	- - - -	- -	16 20 18.85	- - - -	— 5.73	- -		
24												
25												
26												
27												
28	—10 51.43	+ 75.54	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		28. Observed with East clock.
29												
30												
31												
32	+ 1.42	75.55	- - -	- - -	- - - -	- -	13 13 22.02	- - - -	— 4.15	- -		
33												
34												
35												
36												
37	+ 2.89	75.57	- - -	- - -	- - - -	- -	13 40 40.55	- - - -	— 3.23	- -		
38												
39												
40												
41												
42	— 15.59	+ 75 58	- - -	- - -	- - -	- -	13 47 36.62	- - - -	3.82	- -		
43												
44												
45												
46	+18 1.15	- -	- - -	- -	- - - -	- -	- - -	- - - -	- -	- -		
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									59.0	60.5	60.3	59.0	357 5 59.33	VI. 40.385	- -	- -	- -
Aug. 13	2	Nadir - - - -	- -	- -	- -	- -	- -	- -	- - -	58.4	59.9	59.8	60.0	- - - -	- - - -	- -	- -	- -
	3									57.5	59.3	59.0	59.7	- - - -	- - - -	- -	- -	- -
	4		A.	25.42	30.70	35.18	39.09	44.16										
	5		B.	12.39	16.44	19.87	23.28	27.59										
	6	γ Draconis - - -	C.	57.97	61.41	64.71	68.18	71.65	17 53 4.97	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	7		D.	41.98	45.54	49.92	53.98	57.28										
	8		E.	25.64	29.87	35.53	41.11	45.47										
	9		A.	39.34	42.87	45.59	48.36	51.74										
	10		B.	10.66	13.54	15.81	18.08	20.77										
	11	μ^1 Sagittarii - - -	C.	41.26	43.46	45.79	48.10	50.37	18 4 45.82	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	12		D.	10.46	13.07	15.63	18.48	20.74										
	13		E.	39.69	42.51	46.30	49.89	53.10										
	14		A.	29.39	33.79	36.97	40.44	44.56										
	15		B.	7.08	10.42	13.17	15.80	18.87										
	16	α Lyræ - - - -	C.	43.45	46.27	49.06	51.66	54.66	18 31 30.97	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	17		D.	18.46	21.68	24.86	28.06	30.81										
	18		A.	20.31	22.84	26.13	30.00	- -										
	19		B.	50.69	53.92	56.43	58.95	62.00										
	20	β Lyræ - - - -	C.	24.82	27.26	29.94	32.37	34.91	18 44 32.11	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	21		D.	57.53	60.48	63.38	66.48	69.19										
	22		E.	29.97	33.24	37.25	41.54	44.90										
	23		B.	54.90	57.71	59.94	62.20	64.85										
	24	ζ Aquilæ - - -	C.	24.30	26.64	28.76	30.79	33.22	18 58 28.70	8.0	11.8	10.0	12.5	154 45 10.58	VI. 39.425	30.108	81.5	77.3
	25		D.	52.46	54.83	57.56	60.07	62.28										
	26		B.	21.18	23.94	26.10	28.17	30.70										
	27	δ Aquilæ - - -	C.	49.79	51.94	54.07	56.14	58.35	19 17 54.01	8.4	12.8	7.8	10.5	143 54 9.88	VI. 36.355	30.106	81.0	76.9
	28		D.	17.11	19.50	21.93	24.56	26.69										
	29		B.	32.21	34.91	37.05	39.29	41.85										
	30	γ Aquilæ - - -	C.	1.28	3.43	5.61	7.55	9.80	19 39 5.52	60.5	61.5	59.0	60.7	151 18 0.48	VI. 38.17	- -	- -	76.8
	31		D.	29.05	31.40	34.03	36.64	38.73										
	32	α Aquilæ - - -	C.	21.53	23.63	25.86	27.96	30.18	19 63 25.83	15.5	19.4	18.0	18.5	149 36 17.85	VI. 35.808	30.098	80.8	76.7
	33		A.	23.00	4.00	23.00	45.00	26.00										
	34		B.	50.00	10.00	50.00	29.50	56.00										
15	35	Polaris S. P. - -	C.	10.00	27.50	48.00	12.50	33.00	1 4 46.06	59.7	58.2	63.2	59.9	229 39 0.21	VI. 37.945	30.010	78.8	78.5
	36		D.	45.00	24.00	46.00	10.00	51.00	- - -	60.0	59.0	63.5	58.4	- - - -	- - - -	30.008	-	- -
	37		E.	10.00	16.50	57.50	35.00	49.00	- - -	59.8	59.4	63.4	58.0	- - - -	- - - -	- -	- -	- -
	38		A.	49.85	53.37	55.88	58.60	61.93										
	39		B.	19.56	22.14	24.47	26.60	29.22										
	40	β Libræ - - - -	C.	48.45	50.60	52.68	54.80	57.10	15 8 52.78	61.4	62.2	58.5	61.0	132 18 0.99	VI. 41.165	30.010	79.0	77.3
	41		D.	16.08	18.44	21.09	23.66	25.80	- - -	61.8	62.3	59.7	59.8	- - - -	- - - -	- -	- -	- -
	42		E.	43.60	46.20	49.87	53.39	56.12	- - -	61.8	62.2	61.4	59.8	- - - -	- - - -	- -	- -	- -
	43		A.	- -	50.15	52.66	55.30	58.60										
	44		B.	16.13	18.84	21.04	23.23	25.65										
	45	α Serpentis - -	C.	44.84	46.95	49.25	51.31	53.53	15 36 52.27	62.0	63.6	60.0	58.8	148 0 1.53	VI. 37.910	30.010	79.0	76.6
	46		D.	12.42	14.87	17.50	20.05	22.17	- - -	62.8	64.2	59.5	59.8	- - - -	- - - -	- -	- -	76.4
	47		E.	39.83	42.42	46.04	49.50	52.32	- - -	62.4	63.9	59.8	60.8	- - - -	- - - -	- -	- -	- -

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Aug. 13	19	+ 6.73	+ 0.012	+ 0.520	− 0.900	− 0.038
15	16	+ 7.31	+ 0.012	+ 0.520	− 0.900	− 0.038

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- -	- -	- - -	- - -	- - - -	40.404	- - -	- - - -	- -	- -	J. M.	
2	- -	- -	- - -	- - -	- - - -	- -	- -	- - - -	- -	- -		
3	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
4												
5												
6	− 0.56	+ 6.72	- - -	- - -	- - - -	- -	17 53 11.13	- - - -	− 3.17	- -		
7												
8												
9												
10												
11	+ 0.84	+ 6.72	- - -	- - -	- - - -	- -	18 4 53.38	- - - -	− 5.33	- -		
12												
13												
14												
15												
16	+ 17.81	+ 6.72	- - -	- - -	- - - -	- -	18 31 55.50	- - - -	− 4.00	- -		
17												
18												
19												
20	− 2.24	+ 6.73	- - -	- - -	- - - -	- -	18 44 36.60	- - - -	− 4.16	- -		
21												
22												
23												
24	+ 0.35	+ 6.73	+ 33.53	− 26.11	154 45 18.00	40.404	18 58 35.78	+13 38 57.25	− 4.74	−18.71		
25												
26												
27	+ 0.49	+ 6.73	+ 2 18.67	− 40.34	143 55 48.21	- -	19 18 1.23	+ 2 49 27.46	− 5.10	−19.11		27. Passing clouds.
28												
29												
30	+ 0.39	+ 6.73	+ 1 16.51	− 30.31	151 18 46.68	- -	19 39 12.64	+10 12 25.93	− 5.03	−22.00		30. Telescope touched accidentally.
31												
32	+ 0.40	+ 6.74	+ 2 37.40	− 32.45	149 38 22.80	-	19 43 32.97	+ 8 32 2.05	− 5.13	−22.77		
33												
34												
35	+ 36.49	- -	+ 1 25.58	+ 1 11.84	229 41 37.63	40.444	- - -	88 30 43.12	- -	− 8.98		35. Observed with East clock.
36	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
37	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
38												
39												
40	+ 0.66	+ 7.30	− 24.69	− 1 0.61	132 16 35.69	-	15 9 0.74	− 8 49 45.06	− 4.22	+12.33		
41	- -	- -	- - -	- - -	- - - -	-	- - -	- - - -	- -	-		
42	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
43												
44												
45	− 2.27	+ 7.30	+ 52.53	− 34.52	148 0 19.54		15 36 57 30	+ 6 53 58.79	− 4.05	+ 5.14		
46	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	-		
47	- -	- -	- - -	- - -	- - - -	-	- - -	- - - -	- -	- -		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	- -	39.76	40.58	43.42	46.71										
	2		B.	5.48	8.35	10.48	12.75	15.48										
Aug. 15	3	β^1 Scorpii - - -	C.	35.63	37.79	40.13	42.39	44.67	15 56 43.04	61.4	60.4	55.2	57.3	121 44 58.58	VI. 41.800	30.010	78.5	75.8
	4		D.	4.60	7.05	9.80	12.62	14.72										
	5		E.	33.55	36.38	40.14	43.64	46.77										
	6		A.	0.90	4.85	7.63	10.50	14.10										
	7		B.	33.67	36.65	38.95	41.45	44.25										
	8	α Scorpii - - -	C.	5.43	7.82	10.13	12.45	14.98	16 20 10.19	61.3	56.4	60.4	57.0	114 59 58.75	VI. 36.150	30.012	78.7	73.9
	9		D.	35.64	38.50	41.31	44.11	46.40	- - -	61.2	55.0	60.0	57.1	- - - -	- - - -	- -	- -	- -
	10		E.	6.10	9.15	13.05	16.95	19.94	- - -	60.0	61.4	57.5	57.7	- - -	- - - -	- -	- -	- -
	11									57.4	59.7	57.9	60.9	357 5 59.32	VI. 40.424	- -	- -	- -
	12	Nadir - - - -	- -	- -	- -	- -	- -	- -	- - -	58.1	60.9	58.3	61.1	- - - -	- - - -	- -	- -	- -
	13									58.4	60.2	58.8	60.0	- - - -	- - - -	- -	- -	- -
	14		B.	55.00	40.00	16.80	50.80	34.70										
	15	δ Ursæ Minoris -	C.	55.80	31.00	7.00	43.00	19.80	18 20 7.35	60.5	61.8	61.1	60.5	224 50 61.10	VI. 41.433	30.014	74.8	66.4
	16		D.	37.00	16.80	0.00	43.00	19.50	- - -	60.4	61.5	62.6	60.4	- - - -	- - - -	- -	- -	- -
	17		A.	27.00	16.00	32.50	50.00	31.00										
	18		B.	56.50	18.50	58.00	35.50	4.00	0 51 19.65	57.7	60.0	65.4	58.9	229 39 0.72	VI. 37.961	30.052	74.5	71.8
26	19	Polaris S. P. - -	C.	14.50	37.00	56.50	20.00	39.50	19.65	57.5	60.0	65.5	60.8	- - - -	- - - -	0.054	74.2	71.5
	20		D.	- - - -	-		18.50	59.00	- - -	57.7	59.2	65.7	60.3	- - - -	- - - -	- -	- -	- -
	21		E.															
	22		B.	38.09	40.70	42.86	45.18	47.64										
	23	α Virginis - - -	C.	7.12	9.22	11.48	13.52	15.68	13 17 11.34	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	24		D.	34.75	37.08	39.76	42.40	44.59										
	25	δ Aquilæ - - -	- -	- -	- -	- -	- -	- -	- - -	50.0	51.2	44.8	49.8	143 50 48.25	VI. 35.340	30.150	67.5	60.5
	26									47.8	49.0	44.7	48.7	- - - -	- - - -	- -	- -	- -
	27									4.9	9.2	10.1	11.1	360 0 8.38	VI. 40.516	- -	- -	- -
	28	Nadir - - - -	- -	- -	- -	- -	- -	- -	- - -	5.5	8.2	9.7	9.5	- - - -	- - - -	- -	- -	- -
	29									4.7	8.6	9.0	10.0	- - - -	- - - -	- -	- -	- -
	30									10.0	15.8	13.2	12.1	128 9 12.91	VI. 43.165	30.170	66.2	58.5
	31	α^2 Capricorni - -	- -	- -	- -	- -	- -	- -	- - -	12.3	16.4	12.9	11.4	- - - -	- - - -	- -	- -	58.1
	32									10.2	15.9	12.4	12.3	- - - -	- - - -	- -	- -	- -
	33		B.	34.00	55.00	35.00	14.00	43.00	- - -	59.9	61.0	66.1	62.4	229 39 2.17	- - - -	30.312	70.5	69.9
27	34	Polaris S. P. - -	C.	48.00	14.50	36.00	54.50	16.00	1 5 34.23	60.1	59.8	65.3	62.4	- - - -	- - - -	30.308	70.8	69.8
	35		D.	30.30	11.50	30.50	54.20	37.00	- - -	60.2	60.2	65.7	62.9	- - - -	- - - -	- -	- -	- -
	36		A.	12.28	14.63	17.61	20.69	- -										
	37		B.	38.72	41.45	43.52	45.65	48.30										
	38	α Virginis - - -	C.	7.60	9.72	12.08	14.39	16.57	13 17 12.13	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	39		D.	35.42	37.75	40.18	43.02	45.11	- - -	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	40		E.	2.98	5.70	9.35	12.88	15.58										
	41	δ Ursæ Minoris -	B.	22.00	4.50	43.00	12.00	43.50	18 19 35.80	59.5	61.0	62.1	62.3	227 42 1.22	VI. 41.290	- -	- -	- -
	42		C.	23.00	57.50	35.00	9.00	48.50	- - -	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	43									57.8	61.2	52.8	60.5	359 59 58.09	VI. 40.280	- -	- -	- -
	44	Nadir - - - -	- -	- -	- -	- -	- -		- - -	57.2	61.7	52.0	61.8	- - - -	- - - -	-	- -	- -
	45									56.8	61.2	52.4	61.7	- - - -	- - - -	- -	- -	- -

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Aug. 15 16	+ 7.31	+ 0.012	+ 0.520	− 0.900	− 0.038
26 13	+ 10.43	- -	− 0.322	+ 0.528	− 0.139
27 17	+ 9.44	+ 0.016	− 0.322	+ 0.528	− 0.139

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″	J. M.	
1												
2												
3	— 1.94	+ 7.31	— 46.44	— 1 29.23	121 42 42.91	-	15 56 48.41	—19 23 37.84	— 4.87	+11.04		
4												
5												
6												
7												
8	+ 0.94	+ 7.31	+ 2 27.06	— 1 58.28	115 0 27.53	- -	16 20 18.44	—26 5 53.22	— 5.33	+13.78		
9	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
10	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
11	- - -	- -	- - -	- - -	- - - -	40.444	- - -	- - - -	- -	- -		
12	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
13	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
14												
15	— 14.28	- -	— 33.87	+ 1 1.94	224 51 29.13	- -	- - -	+86 36 8.38	- -	—19.84		15. Observed with East clock.
16	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
17												
18	+13 16.77	- -	+ 1 19.18	+ 1 12.90	229 41 32.80	40.273	- - -	+88 30 47.95	- -	—12.12		
19	+13 16.77	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		19. Observed with East clock.
20	- - -	-	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
21												
22												
23	— 0.48	+ 10.43	- - -	- - -	- - - -	- -	13 17 21.29	- - - -	— 3.49	- -		
24												
25	- - -	- -	+ 2 48.94	— 41.79	143 52 55.40	- -	- - -	+ 2 46 34.65	- -	—20.15		
26	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
27	- - -	- -	-	- -	- - - -	40.273	- - -	- - - -	- -	- -		
28	- -	-	- -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
29	- - -	- -	-	- - -	- - - -	- -	- -	- - - -		- -		
30	- - -	-	— 1 39.04	— 1 13.26	128 6 20.61	- -	- - -	—13 0 0.14	- -	—22.40		
31	- - -	-	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
32	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
33	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	-	- -		
34	- - -	- -	- - -	- - -	- - - -	40.335	1 6	- - - -	- -	- -		34. Observed with East clock.
35	— 17.90	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
36												
37												
38	- - -	- -	- - -	- - -	- - - -	- -	13 17 0.00	- - - -	- -	- -		
39	— 2.64	+ 9.38	- - -	- - -	- - - -	- -	13 17 21.37	- - - -	— 3.48	- -		
40												
41	- - -	- -	— 32.71	+ 1 3.85	227 42 32.36	- -	18 23 0.00	+86 36 11.61	- -	—21.92		41. Observed with East clock.
42	+ 4 1.80	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
43	- -	- -	- - -	- - -	- - - -	40.335	- - -	- - - -	- -	- -		
44	- - -	- -	- - -	-	- - - -	- -	- - -	- - - -	-	- -		
45	- - -	- -	- - -	- - -	- - -	- -	-	- - -	- -	- -		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	50.50	53.86	56.44	58.78	61.23										
	2		C.	23.67	26.03	28.75	31.06	33.50										
Aug. 27	3	ζ Cygni - - - -	D.	55.22	58.03	60.82	63.92	66.40	21 6 44.85	- -	- -	- -	- -	- - - - -	- - - - -	- - -	- -	- -
	4		E.	26.73	29.62	33.62	37.70	41.10										
	5		B.	45.89	50.28	54.87	59.55	63.81										
	6	α Cephei - - -	C.	43.74	49.24	54.73	59.70	64.37	21 14 54.64	- -	- -	- -	- -	- - - - -	- - - - -	- - -	- -	- -
	7		D.	42.10	47.16	54.38	61.95	67.80										
	8		A.	41.75	45.50	47.90	50.50	53.70										
	9		B.	11.80	14.70	16.73	18.89	21.53										
	10	ε Pegasi - - -	C.	40.79	42.74	45.10	47.25	49.30	21 36 43.74	16.5	19.8	10.2	20.2	150 17 17.53	VI. 37.568	30.310	64.7	55.5
	11		D.	8.10	10.90	13.35	- -	18.28	- - -	15.9	20.8	14.4	22.4	- - - - -	- - - - -	- - -	- -	- -
	12		E.	36.08	38.59	41.98	45.86	48.50										
	13		A.	10.63	16.62	19.92	23.63	28.58										
	14		B.	54.40	58.31	62.28	64.84	68.84										
	15	α Gruis - - - -	C.	- -	40.10	43.48	46.53	49.71	21 58 43.63	- -	- -	- -	- -	- - - - -	- - - - -	- - -	- -	- -
	16		D.	17.32	20.93	24.66	28.54	31.60										
	17		E.	58.21	61.98	66.90	72.67	76.40										
	18		A.	8.00	55.00	13.00	28.50	14.00										
	19		B.	37.00	58.00	36.50	14.00	43.00	- - -	60.9	60.5	59.8	61.5	229 30 60.68	VI. 38.162	- - -	- -	- -
29	20	Polaris S. P. - -	C.	48.50	10.00	38.00	- -	19.00	1 5 32.64	- -	- -	- -	- -	- - - - -	- - - -	30.354	74.3	76.5
	21		D.	32.00	12.00	33.50	58.00	33.00										
	22		E.	54.50	4.00	43.00	25.50	38.00										
	23		B.	20.90	23.70	25.94	- -	31.03										
	24	β Lyræ - - - -	C.	53.75	56.70	59.62	62.68	65.24	18 44 2.02	11.3	12.5	10.2	15.4	171 21 12.35	VI. 40.125	30.318	70.8	63.5
	25		D.	26.41	29.63	33.62	37.83	41.29										
	26		A.	21.69	25.26	27.65	30.32	33.83										
	27		B.	51.94	54.53	56.86	59.00	61.50										
	28	ζ Aquilæ - - -	C.	21.20	23.35	25.55	27.71	29.93	18 58 25.61	59.3	63.2	64.1	64.9	151 53 61.83	VI. 39.187	30.314	70.3	62.2
	29		D.	49.30	51.75	54.47	56.87	59.21	- - -	58.7	63.2	58.0	63.3	- - - - -	- - - - -	- - -	- -	- -
	30		E.	17.41	20.03	23.60	27.26	30.09										
	31		A.	49.23	52.59	55.10	57.75	61.12										
	32		B.	18.45	21.16	23.30	25.40	27.86										
	33	δ Aquilæ - - -	C.	47.24	49.16	51.40	53.60	55.62	19 17 51.40	64.7	67.2	60.8	64.8	141 2 64.04	VI. 41.645	30.316	69.5	61.8
	34		D.	14.52	16.89	19.49	21.99	24.01	- - -	63.3	67.5	58.7	65.6	- - - - -	- - - - -	- - -	- -	- -
	35		E.	41.58	44.32	47.80	51.26	54.03										
	36		A.	59.64	63.04	65.60	68.16	71.35										
	37		B.	29.35	32.00	34.37	36.33	39.10										
	38	γ Aquilæ - - -	C.	58.45	60.50	62.68	64.70	67.08	19 39 2.69	62.2	62.1	56.1	63.5	148 29 60.98	VI. 38.278	30.308	68.7	60.6
	39		D.	26.11	28.45	31.19	33.66	35.72										
	40		E.	53.73	56.40	60.07	63.46	66.20										
	41		A.	20.00	23.70	26.19	28.70	32.10										
	42		B.	49.83	52.30	54.54	56.87	59.36										
	43	α Aquilæ - -	C.	18.40	20.62	22.80	25.08	27.18	19 43 21.91	- -	- -	- -	- -	- - - - -	- - - -	30.310	67.5	59.3
	44		D.	46.35	- -	51.25	53.87	56.10										
	45		E.	13.85	16.66	20.15	23.71	26.34										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s	s.	s.	s.	s.
Aug. 27 17	+ 9.44	+ 0.016	− 0.322	+ 0.528	− 0.139
29 20	+ 10.26	+ 0.010	− 0.322	+ 0.528	− 0.139

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 16.37	+ 9.50	- - -	- - -	- - - - -	- -	21 6 37.98	- - - - -	− 4.91	- -	J. M.	
4												
5												
6	+ 0.52	+ 9.51	- - -	- - -	- - - - -	- -	21 15 4.67	- - - - -	− 4.89	. .		
7												
8												
9												
10	+ 0.90	+ 9.51	+ 1 34.76	− 33.16	150 18 19.13	40.335	21 36 54.15	+ 9 11 58.38	− 5.10	−31.69		
11	- -	- -	- - -	- - -	- - - - -	- -	- - -	- - - - -	- -	- -		
12												
13												
14												
15	− 1.26	+ 9.52	- - -	- - -	- - - - -	.. -	21 58 51.89	- - - - -	− 6.82	- -		
16												
17												
18												
19												
20	− 15.31	- -	+ 1 18.66	+ 1 13.00	229 33 32.34	40.459	- - -	+88 30 48.41	- -	−12.96		20. Observed with East clock.
21												
22												
23												
24	− 1.95	+ 10.24	+ 11.44	− 5.80	171 21 17.99	- -	18 44 10.31	+33 6 57.24	− 3.90	−22.78		
25												
26												
27												
28	− 0.34	+ 10.25	+ 43.56	− 27.07	151 54 18.32	40.459	18 58 35.52	+13 38 57.57	− 4.57	−20.50		
29	-	- -	- - -	- - -	- - - - -	- -	- - -	- - - - -	- -	- -		
30												
31												
32												
33	− 0.43	+ 10.25	− 40 62	− 41.91	141 1 41.51	- -	19 18 1.22	+ 2 46 20.76	− 4.98	−20.33		33. Observed with East clock.
34	- -	- -	- - -	- - -	- - - - -	- -	- - -	- - - - -	- -	- -		
35												
36												
37												
38	− 0.38	+ 10.26	+ 1 14.69	− 31.44	148 30 44.23	- -	19 39 12.57	+10 15 23.48	− 4.92	−23.82		
39												
40												
41												
42												
43	+ 0.68	+ 10.26	- - -	- - -	- - - - -	- -	19 42 32.85	- - - - -	− 5.04	- -		
44												
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	49.45	52.90	55.40	58.03	61.30										
	2		B.	19.00	21.60	23.66	26.03	28.60										
Aug. 29	3	β Aquilæ	C.	47.48	49.69	51.85	53.89	55.95	19 47 51.88	4.3	8.7	0.0	5.2	144 15 4.55	V. 39.597	30.310	67.8	59.3
	4		D.	15.09	17.40	19.76	22.56	24.60										
	5		E.	42.30	45.03	48.54	52.07	54.90										
	6		B.	5.92	8.70	10.99	13.22	15.88										
	7		C.	35.21	37.54	39.60	41.88	44.16										
	8	α^2 Capricorni	D.	3.40	5.74	8.38	10.98	13.18	20 9 54.14	6.5	8.2	0.7	4.4	125 18 4.95	VI. 43.095	30.310	67.5	59.2
	9		E.	31.12	34.06	37.54	41.16	44.05										
	10		A.	46.07	51.27	54.26	57.96	62.60										
	11		B.	27.56	31.37	34.44	37.10	40.90										
	12	α Cygni	C.	7.47	10.49	13.60	16.45	19.40	20 36 13.54	8.1	10.0	6.2	5.7	183 0 7.50	VI. 39.685	30.304	67.8	58.6
	13		D.	45.72	49.10	52.94	56.46	59.32										
	14		E.	24.26	27.81	32.65	37.65	41.59										
	15									60.5	62.9	58.1	62.7	357 8 60.77	VI. 40.481	- -	- -	- -
	16	Nadir		- -	- -	- -	- -	- -	- - -	61.1	62.0	57.9	62.0	- - - -	- - - -	- -	- -	- -
	17									59.7	62.3	57.5	62.5	- - - -	- - - -	- -	- -	- -
	18		A.	5.00	52.00	6.00	23.00	7.00										
Sept. 3	19	Polaris, S. P.	B.	28.00	51.50	- -	- -	- -	12 42 37.60	57.5	52.1	50.8	53.2	229 59 53.46	VI. 38.896	- -	- -	- -
	20		C.	44.00	6.00	33.50	-	- -	- -	57.0	52.2	52.4	52.5	- - - -	- - - -	- -	- -	- -
	21									2.8	4.5	0.4	4.4	357 9 3.08	VI. 40.615	- -	- -	- -
	22	Nadir		- -	- -	- -	- -	- -	- - -	2.1	4.4	1.2	4.7	- - - -	- - - -	- -	- -	- -
	23									1.5	4.5	1.6	4.9	- - - -	- - - -	- -	- -	- -
	24	γ Aquilæ		- -	- -	- -	- -	- -	- - -	61.8	61.7	56.5	60.7	148 29 60.18	VI. 38.118	30.138	73.8	66.7
	25	α Aquilæ		-	- -	- -	- -	- -	- - -	61.8	66.5	57.5	63.5	146 44 62.32	VI. 40.782	- -	- -	- -
	26	β Aquilæ		- -	- -	- -	- -	- -	- - -	62.2	65.0	57.8	62.8	144 17 61.95	VI. 39.685	30.138	73.8	67.0
	27	α^2 Capricorni		- -	- -	- -	- -	- -	- -	59.7	62.2	53.3	58.5	125 14 58.39	VI. 37.708	- -	- -	- -
	28									60.2	61.8	53.0	58.4	- - -	- - - -	30.140	73.2	66.1
	29	α Cygni	C.	6.00	8.93	11.88	15.00	18.00	20 36 11.96	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	30		B.	- -	39.43	41.48	44.00	46.29										
4	31	Eunomia	C.	7.00	10.00	12.52	14.96	17.71	18 10 14.83	58.3	56.7	50.1	52.7	114 47 54.45	VI. 40.950	30.196	75.2	69.3
	32		D.	38.34	40.73	43.05	45.41	47.46										
	33		A.	47.11	50.65	53.18	55.70	59.10										
	34		B.	16.80	19.30	21.40	23.35	25.95										
	35	δ Aquilæ	C.	45.10	47.16	49.21	51.42	53.75	19 17 49.43	5.8	10.0	3.8	8.8	141 3 7.10	VI. 36.200	30.204	73.0	67.6
	36		D.	12.40	14.77	17.41	19.98	22.73										
	37		E.	39.60	42.30	45.80	49.42	52.17										
	38		A.	57.50	61.10	63.65	66.20	69.41										
	39		B.	27.23	30.05	32.20	34.40	36.98										
	40	γ Aquilæ	C.	56.23	58.32	60.64	62.60	64.95	19 39 0.66	59.2	59.8	52.0	58.4	148 29 57.35	VI. 38.062	30.202	72.8	- -
	41		D.	24.00	26.40	29.20	31.73	33.88										
	42		E.	51.61	54.42	58.08	61.46	64.39										
	43		A.	- -	- -	26.64	- -	32.12										
	44		B.	47.55	50.45	52.60	54.83	57.29										
	45	α Aquilæ	C.	16.68	18.71	21.00	23.00	25.20	19 43 28.77	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	46		D.	44.16	46.08	49.15	51.75	53.90										
	47		E.	11.51	14.30	17.96	21.52	24.21										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Aug. 29	20	+ 10.26	+ 0.010	− 0.322	+ 0.528	− 0.139
Sept. 3	20	+ 11.53	+ 0.012	− 0.412	+ 0.570	− 0.080
4	20	+ 12.35	+ 0.027	− 0.412	+ 0.570	− 0.080

1 rev. of mic = 34″.247

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.41	+10.26	+ 3 24.03	— 38.71	144 17 49.87	- -	19 48 1.73	+ 6 2 29.12	— 5.07	—23.04	J. M.	
4												
5												
6												
7												
8	— 14.89	+10.26	— 1 30.28	— 1 13.48	125 15 21.19	- -	20 9 49.51	—12 59 59.60	— 5.65	—22.40		
9												
10												
11												
12	— 0.01	+10.27	+ 26.51	+ 5.93	183 0 39.94	- -	20 36 23.80	+44 45 19.19	— 4.55	—30.71		
13												
14												
15	- - -	- -	- - -	- - -	- - - -	40.459	- - -	- - - -	- -	- -		
16	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
17	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
18												18. Observed with East clock.
19	+22 17.65	- -	+ 55.82	- - -	- - - -	- -	- - -	- - - -	- -	- -		
20	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
21	- - -	- -	- - -	- - -	- - - -	40.526	- - -	- - - -	- -	- -		
22	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
23	- - -	- -	- -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
24	- - -	- -	+ 1 22.47	— 30.88	148 30 51.77	- -	- - -	+10 15 31.02	- -	—24.26		
25	- - -	- -	— 8.77	— 33.19	146 44 20.36	- -	- - -	8 28 59.61	- -	—24.91		
26	- - -	-	+ 28.80	— 36.50	144 17 54.25	- -	- - -	+ 6 2 33.50	- -	—23.38		
27	- - -	-	+ 1 36.71	— 1 12.06	125 15 23.04	- -	- - -	—12 59 57.71	- -	—22.35		
28	- - -	- -	- - -	- -	- - - -	- -	- - -	- - - -	- -	- -		
29	+ 0.12	+11.53	- -	- - -	- - - -	- -	20 36 23.61	- - - -	— 4.47	- -		
30												
31	— 0.65	+12.18	— 15.95	— 1 47.23	114 45 51.27	40.484	18 10 26.36	—23 29 29.48	- -	- -		
32												
33												
34												
35	— 0.46	+12.34	+ 2 26.71	— 41.21	141 4 52.60	40.484	19 18 1.30	+ 2 49 31.85	— 4.90	—20.69		
36												
37												
38												
39												
40	— 0.40	+12.34	+ 1 22.95	— 30.90	148 30 49.40	- -	19 39 12.60	+10 15 28.65	— 4.85	—24.26		
41												
42												
43												
44												
45	— 8.32	+12.34	- - -	- - -	- - - -	- -	19 43 32.89	- - - -	— 4.97	- -		
46												
47												

DATE.	Number.	OBJECTS.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	47.20	50.60	53.20	55.92	59.20										
	2		B.	17.00	19.65	21.63	23.76	26.32										
Sept. 4	3	β Aquilæ	C.	45.47	47.55	49.75	52.00	54.21	19 47 49.83	- -	- -	- -	- -	- - - - -	- - - - -	- -	- -	- -
	4		D.	12.92	15.47	17.82	20.44	22.70										
	5		E.	40.29	42.98	46.66	50.05	52.85										
	6									62.8	62.6	59.4	64.5					
	7	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.4	62.8	59.3	64.4	359 8 62.04	VI. 40.543	- -	- -	- -
	8									61.8	62.9	59.1	63.5					
	9		A.	53. 0	42.00	0.00	18.00	- -										
	10		B.	44.25	45.47	47.24	49.50	50.32										
	11	Polaris S. P.	C.	41.00	5.00	29.00	51.00	14.00	1 5 50.09	- -	- -	- -	- -	- - - - -	- - - - -	- -	- -	- -
	12		D.	26.50	6.00	26.50	47.00	31.00										
	13		E.	53.50	1.00	44.00	21.00	36.00										
	14		A.	56.03	59.93	62.88	65.70	69.22										
	15		B.	28.73	31.77	34.15	36.60	39.48										
9	16	α Seorpii	C.	0.55	2.87	5.36	7.72	10.09	16 20 5.34	60.4	59.4	54.5	54.0	112 8 56.98	VI. 41.310	30.198	82.5	84.1
	17		D.	31.01	33.56	36.47	39.32	41.63	- -	60.2	59.8	53.0	54.5	- - - - -	- - - - -	- -	- -	- -
	18		E.	1.16	4.10	8.16	12.04	15.01										
	19		B.	5.44	8.27	10.37	12.66	15.18										
	20		C.	34.88	37.09	39.26	41.53	43.84										
	21	α Hereulis	D.	3.12	5.55	8.19	10.95	13.12	17 7 53.89	- -	- -	- -	- -	- - - - -	- - - - -	- -	- -	- -
	22		E.	31.18	33.84	37.61	41.37	44.25										
	23									1.9	6.2	3.8	6.8					
	24	Nadir	- -	- -	- -	- -	- -	- -	- - -	4.7	6.7	3.4	6.4	357 9 4.96	VI. 40.642	- -	- -	- -
	25									3.5	6.4	3.7	6.0					
	26		B.	15.65	18.48	20.70	22.97	25.62										
	27		C.	44.94	47.14	49.28	51.41	53.63										
	28	α Ophiuchii	D.	12.72	15.47	18.08	20.48	22.84	17 27 3.77	56.4	59.5	50.9	55.0	150 56 55.45	VI. 41.397	30.194	82.5	81.2
	29		E.	40.75	43.40	47.24	50.88	53.70										
	30		A.	2.00	51.50	6.00	21.00	5.00										
	31		B.	31.00	52.00	32.00	4.50	37.00										
	32	Polaris S. P.	C.	47.00	12.00	29.00	56.50	19.00	1 5 29.36	62.5	60.2	58.4	55.3					
	33		D.	32.00	11.00	31.00	53.50	37.50	- - -	59.5	60.4	59.5	56.4	229 17 58.99	VI. 38.130	30.226	85.8	89.5
	34		E.	55.00	2.50	43.50	20.00	42.50	- - -	57.4	60.6	58.4	59.3					
	35		A.	32.10	35.78	38.58	41.23	44.87										
	36		B.	3.52	6.41	8.80	11.00	13.54	14 8 38.39	61.0	62.6	55.2	56.8					
11	37	α Bootis	C.	33.88	35.99	38.27	40.54	42.98	- - -	60.8	61.2	56.0	57.5	158 17 59.06	VI. 43.260	- -	- -	- -
	38		D.	2.85	5.25	8.12	10.75	12.98	- - -	59.0	60.9	56.8	60.9					
	39		E.	31.82	34.74	38.52	42.18	45.18										
	40		A.	49.50	37.00	57.00	15.50	57.50										
	41		B.	23.00	42.00	19.00	3.50	31.00										
12	42	Polaris S. P.	C.	34.50	1.00	24.00	45.00	7.00	1 5 20.02	65.4	63.2	59.2	61.5	229 59 62.33	- - - -	30.144	87.5	90.5
	43		D.	24.50	59.50	22.00	44.50	28.00										
	44		E.	45.00	53.00	35.50	12.00	30.00										
	45		A.	31.73	35.30	38.13	40.75	44.38										
	46		B.	2.75	5.82	8.10	10.27	13.00										
	47	α Bootis	C.	33.25	35.57	37.78	40.00	42.42	14 8 37.83	60.4	62.7	58.8	60.7	158 14 60.25	VI. 43.300	30.120	88.8	92.0
	48		D.	2.25	4.63	7.60	10.40	12.66	- - -	60.4	61.8	58.4	56.8	- - - - -	- - - - -	- -	- -	- -
	49		E.	31.19	34. 0	37.78	41.57	44.44										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Sept. 4 20	+ 12.35	+ 0.027	− 0.412	+ 0.570	− 0.080
9 17	+ 13.45	+ 0.011	− 0.412	+ 0.570	− 0.080
11 14	+ 13.92	+ 0.013	− 0.412	+ 0.570	− 0.080
12 14	+ 14.47	+ 0.018	− 0.412	+ 0.570	− 0.080

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS.				Corrected Circle Readings.	Mic. zero.	OBSERVED		Reduction to 1850.0.		Observer.	REMARKS.
	IN AR.		IN DEC.									
	Inst.	Clock.	Inst.	Object.			R. Ascen'n.	Declination.	AR.	Dec.		
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.43	+ 12.34	- - -	- - -	- - - -	- -	19 48 1.74	- - - -	— 5.01	- -	J. M.	
4												
5												
6												
7	- - -	- -	- - -	- - -	- - - -	40.484	- - -	- - - -	- -	- -		
8												
9												
10												
11	— 1 39.90	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		11. Observed with East clock.
12												
13												
14												
15												
16	— 0.78	+ 13.44	— 27.81	— 1 57.01	162 6 32.16	40.498	16 20 18.00	—26 5 48.59	— 4.89	+10.17		
17	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
18												
19												
20												
21	— 14.86	+ 13.45	- - -	- - -	- - - -	- -	17 7 52.48	- - - -	— 3.83	- -		
22												
23												
24	- - -	- -	- - -	- - -	- - - -	40.498	- - -	- - - -	- -	- -		
25												
26												
27												
28	— 14.76	+ 13.45	— 30.79	— 27.14	150 55 57.52	- -	17 27 2.46	12 40 36.77	— 4.01	—10.43		28. Circle not clamped.
29												
30												
31												
32												
33	— 19.30	- -	+ 1 21.09	+ 1 10.87	229 20 30.95	- -	- - -	+88 30 49.80	- -	—16.61		33. Observed with East clock.
34												
35												
36												
37	— 0.29	+ 13.92	— 1 34.59	— 18.48	158 13 5.99	40.498	14 8 52.02	+19 57 45.24	— 2.79	+13.59		
38												
39												
40												
41												
42	— 19.30	+ 14.45	- - -	- - -	- - - -	- -	1 5 15.17	- - - -	—16.31	- -		
43												
44												
45												
46												
47	— 0.29	+ 14.47	— 1 35.96	— 18.48	158 13 5.81	- -	14 8 52.01	19 57 45.06	— 2.78	+13.70		
48	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	37.21	39.81	42.11	44.43	47.00	- - -	61.2	65.5	57.0	64.8	- - - -	- - - -	- -	- -	- -
Sept. 15	2	Iris - - - -	C.	6.23	8.38	10.48	12.85	15.10	23 59 10.66	61.2	65.9	56.4	64.4	150 26 62.46	VI. 43.100	30.522	63.4	50.4
	3		D.	34.13	36.70	39.40	41.83	44.24	- - -	62.5	66.8	58.4	65.4	- - - -	- - - -	30.518	61.8	50.0
	4		B.	13.06	15.73	18.06	20.20	22.85	- - -	61.2	65.5	57.0	64.8	- - - -	- - - -	- -	- -	- -
	5	Weisse, O. 43 -	C.	42.35	44.42	46.65	48.53	50.69	0 2 46.46	61.2	65.9	56.4	64.4	150 26 62.46	VIII. 45.337	30.522	63.4	50.4
	6		D.	9.86	12.37	15.09	17.25	19.75	- - -	62.5	66.8	58.4	65.4	- - - -	- - - -	30.518	61.8	50.0
	7		B.	54.56	59.16	62.94	66.60	71.23										
	8		C.	44.95	48.50	52.48	56.13	60.13										
	9	α Cassiopeiæ - -	D.	33.58	37.41	42.17	46.73	50.50	0 31 17.56	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	10		E.	21.75	26.60	32.72	39.15	43.85										
	11		B.	18.98	21.90	23.90	26.30	28.88										
	12		C.	49.00	51.22	53.34	55.67	58.00										
	13	β Ceti - - - -	D.	17.79	20.39	23.03	25.82	28.04	0 36 8.44	- -	- -	- -	-	- - - -	- - - -	- -	- -	- -
	14		E.	46.23	49.38	53.05	56.87	60.92										
	15		A.	3.00	48.50	11.00	26.00	10.50										
	16		B.	33.00	56.50	33.50	12.00	39.50	- - -	- -	- -	- -	- -	- - - -	- - - -	30.492	- -	68.9
17	17	Polaris S. P. - -	C.	51.00	14.50	38.00	58.00	26.00	1 5 33.18	62.8	62.5	62.0	60.8	229 38 62.16	VI. 38.431	30.498	69.5	68.8
	18		D.	34.00	14.00	40.00	58.50	43.00	- - -	62.8	62.8	60.8	62.8	- - - -	- - - -	30.496	69.5	69.0
	19		E.	59.50	8.50	44.00	24.00	43.00										
	20		A.	12.82	18.20	22.60	26.77	31.83										
	21		B.	0.02	4.41	7.75	11.17	15.24										
	22	γ Draconis - - -	C.	45.75	49.17	52.62	56.12	59.58	17 52 52.76	54.3	56.3	54.0	52.8	189 44 54.35	VI. 38.570	- -	-	- -
	23		D.	29.74	33.64	37.70	41.77	45.22										
	24		E.	13.47	17.71	23.34	28.94	33.52										
	25		A.	30.21	33.90	36.77	39.40	43.03										
	26		B.	1.76	4.65	7.08	9.25	11.89										
	27	μ^1 Sagittarii - - -	C.	32.29	34.42	36.86	39.17	41.67	18 4 36.94	59.4	60.9	53.4	58.5	117 8 58.05	VI. 36.075	30.458	68.5	61.5
	28		D.	1.64	4.10	6.85	9.60	11.99										
	29		E.	30.72	33.65	37.41	41.10	44.17										
	30		B.	43.21	45.82	48.00	50.22	52.80										
	31		C.	11.75	14.21	16.35	18.45	20.50										
	32	α Aquilæ - - -	D.	39.55	41.95	44.56	47.20	49.35	19 43 30.54	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	33		E.	7.14	9.93	13.33	16.98	19.55										
	34									61.2	60.3	57.4	62.7					
	35	Nadir - - - -	- -	- -		- -	- -	- -	- - -	60.3	61.8	57.0	61.8	357 8 60.39	- - - -	- -	- -	- -
	36									60.4	61.7	57.4	62.7					
	37		A.	42.50	46.20	48.76	51.24	54.49										
	38		B.	12.20	14.80	17.12	19.04	21.93										
	39	β Aquilæ - - -	C.	41.10	43.07	45.20	47.47	49.60	19 47 45.27	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	40		D.	8.59	10.98	13.43	16.05	18.03										
	41		E.	35.85	38.40	42.00	45.53	48.18										
	42		A.	29.70	33.15	35.82	38.40	41.73										
	43		B.	59.78	62.44	64.52	66.60	69.18										
	44	α^2 Capricorni - -	C.	28.70	30.90	33.40	35.47	37.60	20 9 32.69	64.7	68.4	59.8	64.4	125 14 64.12	VI. 37.720	30.454	63.8	54.5
	45		D.	56.90	59.35	61.98	64.45	67.10	- - -	64.8	67.8	59.2	63.9	- - - -	- - - -	- -	- -	- -
	46		E.	22.50	24.73	27.40	30.90	34.59										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Sept. 15 0	+ 15.80	+ 0.020	− 0.412	+ 0.570	− 0.080
17 20	+ 16.69	+ 0.013	− 0.412	+ 0.570	− 0.080

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- -	- -	- - -	- -	- - - -	- -	- - -	- - - -	-	- -		
2	— 0.33	+ 15.80	— 1 29.11	— 29.81	150 25 3.54	- -	23 59 26.13	+12 9 42.79	- -	- -	J. M.	
3	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
4	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
5	— 0.33	+ 15.80	—11 31.74	— 30.02	150 15 0.70	- -	0 3 1.93	+11 59 39.95	— 5.63	—34.90		
6	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
7												
8												
9	— 24.69	+ 15.81	- - -	- - -	- - - -	- -	0 31 8.68	- - - -	— 7.10	- -		
10												
11												
12												
13	— 15.54	+ 15.81	- - -	- - -	- - - -	40.415	0 36 8.71	- - - -	— 5.32	- -		
14												
15												
16	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
17	— 19.30	- -	+ 1 7.95	+ 1 14.39	229 41 24.50	- -	- - -	+88 30 56.25	- -	—19.27		
18	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		18. Observed with East clock.
19												
20												
21												
22	+ 0.18	+ 16.66	+ 1 3.19	+ 12.93	189 46 10.47	- -	17 53 9.60	+51 30 49.72	— 2.10	—21.43		
23												
24												
25												
26												
27	— 0.71	+ 16.66	+ 2 28.63	— 1 39.54	117 9 47.14	- -	18 4 52.89	—21 5 33.61	— 5.15	— 4.36		27. Circle not clamped.
28												
29												
30												
31												
32	— 14.52	+ 16.69	- - -	- - -	- - - -	- -	19 43 32.71	- - - -	— 4.81	- -		
33												
34												
35	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
36												
37												
38												
39	— 0.43	+ 16.69	- - -	- - -	- - - -	- -	19 48 1.53	- - - -	— 4.85	- -		
40												
41												
42												
43												
44	— 0.62	+ 16.69	+ 1 32.30	— 1 14.51	125 15 21.91	40.415	20 9 48.76	—12 59 58.84	— 5.47	—22.09		
45	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	40.02	44.83	47.75	51.36	55.60										
	2		B.	- -	21.12	23.80	26.58	29.78										
Sept. 17	3	61[1] Cygni	C.	53.95	56.58	59.33	61.78	64.88	21 0 57.86	59.6	63.3	58.7	62.8	176 17 61.71	VI. 42.340	30.455	62.8	53.4
	4		D.	28.77	31.58	35.22	38.28	40.75	- - -	60.3	63.5	61.3	64.2	- - - -	- - - - -	- -	- -	- -
	5		E.	3.04	6.26	- -	12.48	17.10										
	6	61[2] Cygni	D.	30.20	33.15	36.28	39.60	42.65	21 0 53.92	-	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	7		E.	4.52	7.40	11.11	15.38	18.94										
	8		A.	35.38	42.68	47.98	53.42	60.58										
	9		B.	37.65	43.61	47.95	52.43	57.83										
	10	α Cephei	C.	38.51	42.90	47.42	52.20	56.47	21 14 47.57	- -	- -	- -	- -	- - - -	- - - -	30.456	61.8	52.4
	11		D.	36.46	41.29	46.68	52.08	56.89										
	12		E.	34.38	40.29	47.73	55.18	61.15										
	13		C.	24.80	27.06	29.10	31.35	33.42										
	14	β Aquarii	D.	52.18	54.92	57.58	59.90	61.98	21 23 57.38	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	15		E.	19.40	22.28	25.68	29.22	31.88										
	16		A.	35.12	38.92	41.24	43.84	47.12										
	17		B.	4.99	7.72	9.93	12.02	14.44										
	18	ε Pegasi	C.	33.87	35.94	38.16	40.29	42.55	21 36 38.21	3.7	8.3	2.4	7.5	147 27 5.48	VI. 39.065	30.456	61.0	50.7
	19		D.	1.54	3.93	6.49	9.10	11.30										
	20		E.	29.02	31.70	35.40	38.89	41.75										
	21		A.	4.50	9.28	13.70	17.17	21.88										
	22		B.	48.08	52.51	55.64	58.75	62.46										
	23	α Gruis	C.	30.91	33.87	36.88	40.43	43.33	21 58 37.01	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	24		D.	11.28	14.89	18.60	22.44	25.51										
	25		E.	51.46	55.29	60.46	65.97	69.88										
	26									61.8	65.5	60.8	66.4					
	27	Nadir	- -	- -	- -	- -	- -	- -	- - -	62.5	66.3	61.8	66.5	357 8 64.16	VI. 40.536	- -	-	- -
	28									63.2	66.7	62.0	66.4					
	29		A.	27.97	31.69	34.48	37.71	41.14										
	30		B.	1.25	4.14	6.78	8.80	11.69										
	31	λ Piscis Austr.	C.	33.28	35.79	38.25	40.70	43.27	22 5 38.44	48.7	47.5	43.7	47.5	109 47 46.85	VI. 40.630	30.464	60.7	50.3
	32		D.	4.71	7.28	10.20	13.14	15.67										
	33		E.	35.60	38.86	42.66	46.44	49.55										
	34		A.	3.35	6.11	9.28	12.90	-										
	35		B.	33.45	36.51	39.10	41.46	44.63										
	36	α Piscis Austr.	C.	6.51	8.68	11.50	14.00	16.39	22 49 14.44	61.8	62.8	55.5	59.5	107 50 59.96	V. 41.150	30.468	61.0	50.4
	37		D.	38.10	40.70	43.80	46.93	49.23	- - -	62.0	62.6	55.5	60.0	- - - -	- - - - -	- -	- -	- -
	38		E.	9.53	12.85	16.69	20.75	24.04										
	39		A.	1.26	4.89	7.26	10.01	13.44										
	40		B.	30.81	33.64	35.82	37.90	40.60										
	41	ι Piscium	C.	59.64	62.19	64.20	65.82	68.09	23 32 3.87	55.7	57.3	48.0	54.7	143 5 53.92	VI. 41.150	30.460	60.7	49.7
	42		D.	26.95	29.29	32.12	34.53	36.50										
	43		E.	54.13	56.90	60.39	63.64	66.59										
	44		A.	34.05	38.58	40.88	43.68	- -							V. 40.342			
	45	Anonymous	C.	- -	- -	35.74	37.89	39.98	23 58 34.30	52.8	58.4	50.6	55.5	150 14 54.33	VI. 40.570	30.460	60.4	49.3
	46		D.	59.00	61.54	64.32	67.00	68.94							VI. 40.140			

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Sept. 17 20	+ 16.69	+ 0.013	− 0.412	+ 0.570	− 0.080

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 1.26	+ 16.70	− 1 5.93	− 0.89	176 16 54.89	- -	21 1 15.82	+38 1 34.14	− 4.91	−38.73	J. M.	
4	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
5												
6												
7	− 53.54	16.70	- - -	- - -	- - - -	- -	21 1 17.08	- - - -	− 4.91	- -		
8												
9												
10	+ 0.49	16.70	- - -	- - -	- - - -	- -	21 15 4.76	- - - -	− 4.46	- -		
11												
12												
13												
14	− 28.80	16.70	- - -	- - -	- - - -	- -	21 23 45.28	- - - -	− 5.41	- -		
15												
16												
17												
18	− 0.41	+ 16.71	+ 46.23	− 33.65	147 27 18.06	- -	21 36 54.51	+ 9 11 57.31	− 4.95	−33.99		
19												
20												
21												
22												
23	− 1.16	+ 16.71	- - -	- - -	- - - -	- -	21 58 52.56	- - - -	− 6.80	- -		
24												
25												25. Blurred and indistinct.
26												
27	- -	- -	- - -	- - -	- - - -	40.415	- - -	- - - -	- -	- -		
28												
29												
30												
31	− 0.81	+ 16.72	− 7.36	− 2 20.73	109 45 18.76	- -	22 5 54.35	−28 30 1.99	− 5.97	−29.92		
32												
33												
34												
35												
36	− 2.93	16.72	+ 2 29.34	− 2 34.78	107 50 54.52	- -	22 49 28.23	−30 24 26.23	− 6.00	−32.39		
37	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	-	- -		
38												
39												
40												
41	− 0.44	16.74	− 25.17	− 39.96	143 4 48.79	40.415	23 32 20.17	+ 4 49 28.04	− 5.51	−35.94		
42												
43												
44												
45	+ 6.70	+ 16.74	+ 2.23	− 30.02	150 14 26.54	- -	23 58 57.74	+11 59 5.79	- -	- -		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	0.00	48.50	6.00	18.50	7.00										
	2		B.	30.00	53.00	27.00	11.00	42.00										
Sept. 20	3	Polaris S. P.	C.	45.00	11.50	84.50	56.00	14.00	1 5 30.58	61.0	62.3	61.7	60.4	229 38 61.57	- - - -	30.198	72.7	75.4
	4		D.	35.50	13.50	35.00	57.00	37.00	- - -	61.5	61.8	61.6	61.7	- - - -	- - - -	- -	- -	75.6
	5		E.	2.00	6.50	48.00	24.00	41.50	- - -	61.7	62.4	61.4	61.4	- - - -	- - - -	- -	- -	-
	6		A.	41.38	45.12	47.86	50.42	53.71										
	7		B.	11.54	14.44	16.58	18.78	21.35										
	8	α Ophiuchi	C.	40.84	43.10	45.50	47.43	49.74	17 27 45.32	18.5	18.8	10.5	13.8	150 58 15.65	VI. 43.714	30.180	72.8	71.7
	9		D.	8.89	11.45	13.94	16.61	18.71	- - -	16.3	19.5	13.4	14.4	- - - -	- - - -	- -	- -	- -
	10		E.	36.76	39.48	43.08	46.68	49.58										
	11		A.	11.99	17.82	21.82	25.94	31.01										
	12		B.	59.04	63.54	66.80	70.36	74.38										
	13	γ Draconis	C.	44.98	48.41	51.86	55.14	58.75	17 52 51.98	60.8	59.9	63.4	57.8	189 47 60.99	VI. 43.925	30.176	72.0	70.3
	14		D.	29.19	32.82	36.98	41.13	44.48	- - -	62.0	63.7	61.3	59.0	- - - -	- - - -	- -	- -	- -
	15		E.	12.58	16.82	22.47	28.47	32.82										
	16		A.	29.50	33.34	36.00	38.72	42.21										
	17		B.	0.84	3.79	6.12	8.38	11.22										
	18	μ^1 Sagittarii	C.	31.54	33.68	36.02	38.25	40.64	18 4 36.14	61.8	63.0	55.0	58.5	117 11 59.83	VI. 41.424	30.170	72.5	69.6
	19		D.	0.99	3.41	6.19	8.92	11.13	- - -	62.4	62.8	55.7	59.4	- - - -	- - - -	- -	- -	- -
	20		E.	29.85	32.66	36.57	40.36	43.30										
	21		B.	55.83	59.25	61.79	64.71	67.94										
	22		C.	32.02	34.84	37.61	40.45	43.22	18 31 55.71	- -	- -	- -	- -	- - - -	- - - -	30.172	72.4	68.5
	23	α Lyræ	D.	7.12	10.04	13.40	16.74	19.44										
	24		E.	42.08	45.38	49.87	54.50	57.96	- - -	- -	- -	- -	- -	- - - -	- - - -	- -	-	68.6
	25		B.	20.19	23.87	26.77	30.10	33.66										
	26	α Cygni	C.	0.14	3.00	6.00	9.08	11.83	20 36 6.08	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	27		D.	38.36	41.70	45.45	49.10	51.94										
	28								- - -	62.5	65.2	60.5	60.8	357 8 62.83	VI. 40.546	- -	- -	- -
	29	Nadir	- -	- -	- -	- -	- -	- -	- - -	62.8	65.5	60.9	63.4	- - - -	- - - -	- -	- -	- -
	30								- - -	63.0	65.2	61.7	62.5	- - - -	- - -	- -	- -	- -
	31		A.	5.30	9.00	11.67	14.17	17.29										
	32		B.	35.32	38.17	40.44	42.58	45.00										
	33	Anonymous	C.	4.69	6.62	8.89	11.17	13.36	23 55 8.94	59.4	66.0	58.5	60.4	150 3 61.44	VI. 38.800	- -	- -	- -
	34		D.	32.44	34.90	37.54	40.20	42.33	- - -	59.7	65.7	59.0	62.8	- - - -	- - - -	- -	- -	- -
	35		E.	0.23	2.90	6.49	9.94	12.96										
	36		A.	1.50	47.50	5.00	21.50	3.00										
	37		B.	26.00	49.00	28.50	10.00	39.00										
26	38	Polaris S. P.	C.	48.00	15.00	31.00	58.00	14.00	1 5 28.90	59.9	60.9	63.2	60.5	229 48 64.95	VI. 43.697	29.940	66.5	68.6
	39		D.	11.00	9.50	35.00	54.00	39.00	- - -	64.8	65.8	67.7	65.2	- - - -	- - - -	.938	66.7	68.8
	40		E.	58.00	6.00	46.00	26.00	41.00	- - -	64.2	64.9	67.5	64.8	- - - -	VI. 43.762	- -	- -	- -
	41		B.	51.34	53.86	56.02	58.10	60.80										
	42		C.	19.70	22.02	24.20	26.28	28.26	21 23 38.35	57.8	61.0	58.9	56.5	132 5 58.50	II. 34.278	29.860	66.0	60.5
	43	β Aquarii	D.	47.40	49.89	52.80	54.83	57.00										
	44		E.	14.56	17.33	20.70	24.50	27.36	- - -	58.0	60.9	58.2	56.7	- - - -	- - - -	- -	- -	- -
	45		A.	59.54	64.53	68.60	72.30	77.45										
	46		B.	43.60	47.25	50.60	53.99	57.66										
	47	α Gruis	C.	25.70	29.16	32.19	35.08	38.53	21 58 32.19	8.7	8.9	10.9	9.2	91 7 9.42	VI. 39.367	29.862	66.1	60.3
	48		D.	6.32	9.95	13.71	17.43	20.44	- - -	- -	- -	- -	- -	- - - -	- - - -	.856	66.0	60.2
	49		E.	47.42	51.09	55.92	61.20	65.19										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Sept. 20	19	+ 17 20	+ 0.007	− 0.412	+ 0.570	− 0.080
26	23	+ 21 31	+ 0.027	− 0.412	+ 0.570	− 0.080

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 19.30	-	- - -	- - -	- - - -	40.463	- - -	- - - -	- -	- -	J. M.	3. Observed with East clock.
4	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
5	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
6												
7												
8	— 0.37	+ 17.19	— 1 51.34	— 27.63	150 55 56.68	- -	17 28 2.14	+12 40 35.93	— 3.80	—10.41		
9	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
10												
11												
12												
13	+ 0.18	17.19	— 1 58.56	+ 12.60	189 46 15.03	- -	17 53 9.35	+51 30 54.28	— 2.00	—21.40		
14	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
15												
16												
17												
18	— 0.71	17.19	— 32.91	— 1 37.08	117 9 49.84	- -	18 4 52.62	—21 5 30.91	— 5.08	— 4.28		
19	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
20												
21												
22	— 18.06	17.20	- - -	- - -	- - - -	- -	18 31 54.85	- - - -	— 3.10	- -		
23												
24	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
25												
26	+ 0.13	+ 17.21	- - -	- - -	- - - -	- -	20 36 23.42	- - - -	— 4.17	- -		
27												
28	- -	- -	- - -	- - -	- - - -	40.463	- - -	- - - -	- -	- -		
29	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
30	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
31												
32												
33	— 0.36	+ 17.23	+ 56.96	— 28.84	150 4 29.56	- -	23 55 25.81	+11 49 8.81	- -	- -		
34	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
35												
36												
37												
38	— 19.32	- -	— 1 52.81	+ 1 13.06	229 48 25.20	40.435	- - -	88 30 55.55	- -	—22.56		
39	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
40	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
41												
42												
43	— 14.68	+ 21.27	+18 8.23	— 56.89	132 23 9.84	- -	21 23 44.94	— 6 13 10.91	— 5.33	—30.68		
44	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
45												
46												
47	— 1.16	+ 21.28	+ 36.58	—12 13.90	90 55 32.10	- -	21 58 52.31	—47 40 48.65	— 6.71	—23.75		
48	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									56.4	60.8	61.0	63.8	357 29 60.81	VI. 40.459	- -	- -	- -
Sept. 26	2	Nadir	- -	- -	- -	- -	- -	- -	- - -	57.0	61.0	61.7	63.2	- - - -	- - - -	- -	- -	- -
	3									57.8	61.2	62.4	63.4	- - - -	- - - -	- -	- -	- -
	4		A.	54.60	58.60	61.60	64.53	68.27										
	5		B.	28.60	31.66	34.20	36.70	39.59	22 49 50.29	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	6	α Piseis Austr.	C.	1.54	4.00	6.59	8.98	11.53	- - -	57.8	58.5	58.0	58.8	108 14 58.28	VI. 41.510	29.850	65.0	58.8
	7		D.	33.29	36.08	39.00	41.99	44.45										
	8		A.	58.20	61.85	64.40	67.02	70.20										
	9		B.	28.42	31.18	33.57	35.64	38.13										
	10	α Pegasi	C.	57.79	60.10	62.21	64.46	66.70	22 57 2.30	59.2	61.3	59.0	62.5	153 0 0.29	VI. 38.058	29.844	64.8	60.7
	11		D.	25.94	28.43	31.22	33.65	35.89	- - -	57.5	61.0	59.0	62.8	- - - -	- - - -	- -	- -	- -
	12		E.	54.07	56.82	60.50	64.14	66.87										
	13		A.	56.77	60.29	62.90	65.45	68.71										
	14		B.	26.19	28.96	31.18	33.24	35.88										
	15	ι Piscium	C.	54.89	56.90	59.05	61.23	63.47	23 31 59.14	61.4	62.3	60.2	61.2	143 27 1.42	VI. 41.482	29.830	64.2	61.3
	16		D.	22.23	24.57	27.15	29.64	31.74	- - -	61.5	62.7	60.2	61.8	- - - -	- - - -	- -	- -	- -
	17		E.	49.35	52.24	55.61	59.04	61.93										
	18		A.	3.48	7.11	9.59	12.39	15.64										
	19		B.	33.50	36.18	38.31	40.47	43.14										
	20	Anonymous	C.	2.38	4.62	6.90	8.94	11.03	6.85	57.4	58.8	59.4	58.0	149 50 58.42	VI. 40.110	29.826	64.0	60.4
	21		D.	30.30	32.73	35.30	37.89	39.96	- - -	56.4	59.4	58.0	60.0	- - - -	- - - -	- -	- -	- -
	22		E.	57.96	60.61	64.24	67.86	70.59										
	23	Weisse, $0^h.169$	D.	6.67	9.03	11.78	14.36	16.45	26.04	55.7	58.9	58.8	58.7	145 32 57.94	VI. 40.220	29.814	63.5	59.5
	24		E.	34.21	36.97	40.33	43.99	46.57	- - -	55.6	59.0	58.5	58.3	- - - -	- - - -	- -	- -	- -
	25									60.0	63.4	65.1	65.4	357 30 3.77	VI. 40.437	- -	- -	- -
30	26	Nadir	- -	- -	- -	- -	- -	- -	- - -	59.8	64.2	66.0	66.5	- - - -	- - - -	-	- -	- -
	27									59.7	63.9	65.4	65.9	- - - -	- - - -	- -	- -	- -
	28	Iris	- -	- -	- -	- -	- -	- -	- - -	58.5	62.0	58.4	59.4	149 23 59.58	VI. 39.122	30.120	61.2	53.8
Oct. 1	29	Hygeia	- -	- -	- -	- -	- -	- -	- - -	1.8	5.7	5.5	4.5	145 15 4.23	VI. 40.227	30.116	61.1	53.6
	30									1.6	5.4	5.0	4.3	- - - -	- - - -	.120	60.9	53.8
	31	ε Pegasi	- -	- -	- -	- -	- -	- -	- - -	27.9	32.5	31.7	33.1	147 48 31.30	VI. 39.760	30.182	47.8	49.7
	32									59.4	63.5	64.5	64.0	357 30 3.03	VI. 40.464	- -	- -	- -
	33	Nadir	- -	- -	- -	- -	- -	- -	- - -	59.7	63.5	63.8	64.9	- - - -	- - - -	- -	- -	- -
	34									59.4	63.9	64.4	65.3	- - - -	- - - -	- -	- -	- -
	35	α Pegasi	- -	- -	- -	- -	- -	- -	- - -	58.5	65.2	63.4	65.4	152 59 63.12	VI. 38.100	30.182	57.2	49.1
	36	ι Piscium	- -	- -	- -	- -	- -	- -	- - -	57.5	61.8	59.4	59.8	143 23 59.62	VI. 36.095	30.170	56.0	47.9
	37	Iris	- -	- -	- -	- -	- -	- -	- - -	58.4	65.8	62.9	63.0	149 18 2.52	VI. 40.880	30.168	55.3	47.4
	38	Anonymous	- -	- -	- -	- -	- -	- -	- - -	60.0	65.8	63.4	63.9	149 18 3.28	VI. 44.160	.164	55.0	47.3
	39		A.	- -	- -	- -	17.00	3.00										
	40		B.	27.00	49.00	29.00	8.00	37.00										
	41	Polaris S. P.	C.	47.00	8.00	29.50	53.00	14.00	48.44	60.0	59.8	62.5	58.8	229 59 60.38	VI. 38.512	30.178	63.5	63.6
	42		D.	29.00	9.00	31.00	53.00	38.00	- - -	60.2	59.9	62.5	59.3	- - - -	- - - -	- -	- -	- -
	43		E.	58.00	6.00	45.00	24.00	41.00										
	44		A.	58.60	62.65	65.54	68.40	72.10										
	45		B.	31.39	34.44	36.70	39.19	42.13										
2	46	Moon, I.	C.	3.22	5.44	7.72	10.15	12.60	19 22 7.81	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	47		D.	33.24	35.87	38.70	41.70	43.98										
	48		E.	3.40	6.54	10.23	14.00	17.27										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Sept. 26	23	21.31	+ 0.027	− 0.412	+ 0.570	− 0.080
30	0	- - -	- - -	− 0.412	+ 0.570	− 0.080
Oct. 1	0	- - -	- -	− 0.412	+ 0.570	− 0.080
2	0	- - -	- -	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- - -	- -	- - -	- - -	- - - -	40.435	- - -	- - - -	- -	- -	J. M.	
2	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
3	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
4												
5	+ 15.49	+ 21.30	- - -	- - -	108 11 52.31	- -	22 50 27.08	—30 24 28.44	— 6.00	—31.16		
6	- - -	- - -	— 36.82	— 2 29.15	- - - -	- -	- - -	- - - -	- -	- -		
7												
8												
9												
10	— 0.35	21.31	+ 1 21.40	— 25.82	153 0 55.87	- -	22 57 23.26	+14 24 35.12	— 5.50	—37.53		
11	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
12												
13												
14												
15	— 0.44	21.32	— 35.86	— 38.27	143 25 47.29	- -	23 32 20.02	+ 4 49 26.54	— 5.54	—38.94		
16	- - -	- - -	- - -	- -	- - - -	- -	- - -	- - - -	- -	- -		
17												
18												
19												
20	— 0.36	+ 21.34	+ 11.13	— 29.71	149 50 39.84	- -	23 49 27.83	+11 14 19.09	- -	- -		
21	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
22												
23	— 0.42	21.34	+ 7.36	— 35.42	145 32 29.88	- -	46.96	+ 6 56 9.13	- -	- -		
24	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
25	- - -	- - -	- - -	- - -	- - - -	40.328	- - -	- - - -	- -	- -		
26	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
27	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
28	- - -	- - -	+ 41.30	— 30.97	149 24 9.91	- -	- - -	+10 47 49.16	- -	- -		
29	- - -	- - -	+ 3.46	— 36.61	145 14 31.08	- -	- - -	6 38 10.33	- -	- -		
30	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
31	- - -	- - -	+ 21.09	— 33.45	147 48 18.94	40.376	- - -	+ 9 11 58.19	- -	—33.35		
32	- - -	- - -	- - -	- - -	- - - -	40.376	- - -	- - - -	- -	- -		
33	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
34	- - -	- - -	- - -	- -	- - - -	- -	- - -	- - - -	- -	- -		
35	- - -	- - -	+ 1 17.95	— 26.73	153 0 54.34	- -	- - -	+14 24 33.59	- -	—38.01		
36	- - -	- - -	+ 2 26.61	— 39.75	143 25 46.48	- -	- - -	4 49 25.73	- -	—38.19		
37	- - -	- - -	— 17.26	— 31.58	149 17 13.68	- -	- - -	10 40 52.93	- -	- -		
38	- - -	- - -	— 2 9.59	— 31.62	149 15 22.07	- -	- - -	10 39 1.32	- -	- -		
39												
40												
41	—5 11.68	- - -	+ 1 5.38	+ 1 14.39	230 2 20.15	40.421	- - -	+88 31 0.60	- -	—24.83		
42	- - -	- - -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
43												
44												
45												
46	+1 6.80	+ 24.03	- - -	- - -	- - - -	- -	19 23 38.64	- - - -	- -	- -		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	8.40	12.00	14.70	17.69	21.00										
	2		B.	40.66	43.50	45.90	48.26	51.04										
Oct. 2	3	h^2 Sagittarii	C.	11.87	14.10	16.55	19.24	21.60	19 27 16.82	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	42.43	44.75	47.76	50.45	52.83										
	5		E.	12.32	15.23	19.18	22.94	26.10										
	6		C.	- -	1.20	3.77	6.38	8.83										
	7	α Piscis Austr.	D.	30.83	33.29	36.34	39.30	41.66	22 49 39.18	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	8		E.	1.93	5.24	9.44	13.58	16.69										
	9									1.4	5.2	6.0	6.6	357 30 4.57	VI. 40.554	- -	- -	- -
	10	Nadir	- -	- -	- -	- -	- -	- -	- - -	0.3	5.2	6.1	5.9	- - - -	- - - -	- -	- -	- -
	11									0.7	5.0	6.5	5.9	- - - -	- - - -	- -	- -	- -
	12		C.	45.48	48.16	50.97	53.62	56.39										
3	13	α Lyræ	D.	20.47	23.47	26.65	30.04	32.70	18 31 27.00	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	14		E.	55.26	59.84	63.24	67.66	11.15										
	15		A.	17.99	22.22	25.35	28.43	32.29										
	16		B.	53.02	56.30	58.55	61.35	64.40										
	17	β Lyræ	C.	27.20	29.55	32.25	34.78	37.35	18 44 32.31	0.2	4.4	5.7	3.7	171 48 3.50	VI. 39.877	29.790	67.5	63.0
	18		D.	59.83	62.68	65.69	68.78	71.36										
	19		E.	32.25	35.61	39.67	43.67	47.19										
	20		A.	28.05	31.28	34.29	36.85	40.21										
	21		B.	58.24	60.59	63.10	65.28	- -										
	22	φ Aquilæ	C.	27.50	29.71	31.49	34.03	36.14	18 58 33.57	59.3	63.9	64.0	61.4	152 15 2.15	VI. 39.018	29.790	67.0	62.4
	23		D.	55.84	57.85	60.13	63.12	65.53										
	24		E.	23.54	26.26	29.84	33.30	- -										
	25		A.	55.31	58.83	61.40	64.00	67.17										
	26		B.	24.66	27.47	29.57	31.65	34.29										
	27	δ Aquilæ	C.	53.15	55.24	57.40	59.60	61.76	19 17 57.58	52.2	58.4	55.6	55.7	141 26 55.48	VI. 41.034	30.298	67.0	62.5
	28		D.	20.79	23.02	25.74	28.08	30.30										
	29		E.	47.86	50.48	54.11	57.51	60.21										
	30		B.	0.81	3.84	6.13	8.57	11.31										
	31	h^2 Sagitarii	C.	32.32	34.70	37.10	39.40	41.73	19 27 49.88	53.8	54.7	52.4	52.7	113 26 53.40	VI. 42.125	- -	- -	61.5
	32		D.	- -	5.24	8.00	10.89	13.31										
	33		E.	- -	35.48	39.45	43.30	46.35										
	34		C.	53.96	56.05	58.42	60.59	62.74										
	35	e^2 Sagitarii	D.	22.47	24.90	27.64	30.16	32.54	19 34 27.71	52.5	53.9	50.6	49.7	122 8 51.68	VI. 38.960	29.806	66.5	61.6
	36		E.	50.61	53.54	57.24	60.91	63.88										
	37									58.6	62.4	63.5	62.4	- - - -	- - - -	- -	- -	- -
	38	Nadir	- -	- -	- -	- -	- -	- -	- - -	58.8	62.4	63.0	64.2	357 30 2.08	VI. 40.480	- -	-	- -
	39									58.9	62.9	63.4	64.5	- - - -	- - - -	- -	- -	- -
	40		A.	29.21	32.91	35.65	38.60	42.15										
	41		B.	1.55	4.49	6.76	9.10	11.80										
	42	Moon, I. & S.	C.	32.93	35.29	37.31	39.69	42.04	20 16 34.66	56.7	59.0	56.8	56.4	117 5 57.22	VI. 38.454	29.817	65.9	59.1
	43		D.	3.22	5.43	8.14	11.08	13.41										
	44		E.	32.62	35.59	39.56	43.26	- -										
	45		A.	6.51	10.26	13.00	15.79	19.59										
	46	ψ Capricorni	B.	38.84	41.95	44.50	46.81	49.34	- - -	52.2	57.8	54.0	55.5	112 50 54.88	VI. 41.494	29.816	65.4	58.7
	47		C.	10.36	13.06	15.43	17.66	20.34	20 37 59.79	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	48		D.	41.00	43.60	46.40	49.53	51.87										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Oct. 3 23	+ 24.10	+ 0.019	− 0.490	+ 0.457	− 0.074
2 20	+ 3.54	+ 0.015	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	s.		
1												
2												
3	— 0.75	+ 24.04	- - -	- - -	- - - -	- -	19 27 40.11	- - - -	— 5.42	- -	J. M.	
4												
5												
6												
7	— 36.08	+ 24.10	- - -	- - -	- - - -	- -	22 49 27.20	- - - -	— 5.95	- -		
8												
9	- -	- -	- - -	- - -	- - -	40.421	- - -	- - - -	- -	- -		
10	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
11	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
12												
13	— 36.17	+ 3.52	- - -	- - -	- - - -	- -	18 30 54.35	- - - -	— 2.85	- -		13. Observed with East Sidercal clock.
14												
15												
16												
17	— 0.28	3.53	+ 18.60	— 5.62	171 48 16.48	- -	18 44 35.56	+33 11 55.73	— 3.17	—26.48		
18												
19												
20												
21												
22	— 2.22	3.53	+ 48.01	— 26.59	152 15 23.57	- -	18 58 34.88	+13 39 2.82	— 3.97	—22.03		22. Field imperfectly illuminated.
23												
24												
25												
26												
27	— 0.54	3.53	— 21.03	— 41.76	141 25 52.69	- -	19 18 0.57	+ 2 49 31.94	— 4.45	—21.20		
28												
29												
30												
31	— 13.50	3.53	— 58.39	— 1 55.73	113 23 59.28	- -	19 27 39.91	—25 12 21.47	— 5.40	—12.75		
32												
33												
34												
35	— 29.96	+ 3.53	+ 50.13	— 1 21.59	122 8 20.22	- -	19 34 1.25	—16 28 0.53	— 5.10	—16.56		
36												
37	- -	- -	- - -	- - -	- - - -	40.420	- - -	- - - -	- -	- -		
38	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
39	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
40												
41												
42	+1 8.14	+ 3.54	+ 1 7.33	+60 51.41	118 7 55.96	- -	20 17 46.34	—20 28 24.79	- -	- -		
43												
44												
45												
46	- -	- -	- - -	- - -	- - - -	40.420	- - -	- - - -	- -	- -		
47	+ 14.85	+ 3.55	— 36.62	— 1 59.50	112 48 18.76	- -	20 37 18.19	—25 48 1.99	— 5.64	—20.30		
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		C.	57.23	59.33	61.49	63.39	65.89										
Oct. 3	2	ζ Pegasi	D.	24.98	27.15	29.85	32.25	34.47	22 34 29.96	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	3		E.	52.35	54.85	58.58	62.42	65.25										
	4		A.	12.49	16.68	19.30	22.32	26.18										
	5		B.	46.56	49.62	52.09	54.55	57.54										
	6	α Piscis Austr.	C.	19.52	22.09	24.70	26.85	29.26	22 49 24.56	58.9	62.6	59.7	58.8	108 12 0.00	VI. 36.200	29.806	62.5	56.5
	7		D.	51.10	53.99	57.09	60.05	62.31										
	8		E.	22.58	25.92	29.81	33.98	37.32										
	9	α Pegasi	- -	- -	- -	- -	- -	- -	- - -	57.0	62.2	61.0	62.0	153 0 0.55	VI. 38.025	- -	- -	- -
	10		A.	14.28	17.93	20.28	23.12	26.10										
	11		B.	43.78	46.58	48.75	50.85	53.39										
	12	ι Piscium	C.	12.58	14.78	16.81	18.88	21.02	23 32 16.83	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	13		D.	39.94	42.31	44.81	47.43	49.60										
	14		E.	7.15	9.92	13.65	17.08	19.85										
	15									59.4	63.7	64.8	65.9					
	16	2d Nadir	- -	- -	- -	- -	- -	- -	- - -	59.0	64.2	64.9	65.8	357 30 3.49	VI. 40.504	- -	- -	- -
	17									59.3	64.3	65.0	65.6					
	18		A.	- -	- -	53.15	55.93	59.20										
	19		B.	16.83	19.75	21.95	24.02	26.60										
	20	Iris	C.	46.05	47.99	50.13	52.18	54.51	55.58	1.4	5.4	6.2	5.8	149 3 4.81	VI. 39.815	29.816	62.2	54.0
	21		D.	13.50	15.93	18.57	21.15	23.46	- - -	0.6	6.4	6.0	6.7					
	22		E.	41.25	43.68	47.45	51.19	53.95										
	23		B.	35.26	37.92	40.18	42.31	44.93		58.2	61.4	60.4	59.4					
	24	Hygeia	C.	4.08	6.28	8.50	10.61	12.90		56.0	60.8	60.4	58.8	144 59 59.28	VI. 38.630	29.812	62.2	54.5
	25		D.	32.05	34.38	36.91	39.76	41.98	22.89	56.4	61.2	59.0	59.4	- - - -	- - - -	- -	62.4	54.9
	26		E.	59.67	62.48	65.95	69.36	72.22										
	27		A.	6.68	10.68	13.33	16.00	19.59										
	28		B.	38.57	41.64	43.78	46.18	48.85										
4	29	Moon I.	C.	9.37	11.64	13.89	16.28	18.65	21 8 14.04	55.5	59.4	58.2	57.8	119 20 57.72	VI. 40.049	30.004	65.0	56.5
	30		D.	38.95	41.48	44.31	47.03	49.29										
	31		E.	8.38	11.16	14.88	18.75	21.58										
	32		A.	17.81	21.33	23.92	26.46	29.72										
	33		B.	47.25	49.98	52.23	54.33	56.88										
	34	β Aquarii	C.	16.18	18.28	20.48	22.41	24.69	21 33 20.42	53.0	56.5	54.4	53.2	132 23 54.28	VI. 40.036	30.000	64.3	55.8
	35		D.	43.36	45.94	48.60	51.18	53.29										
	36		E.	10.98	13.74	17.17	20.60	23.60										
	37	γ Capricorni	D.	51.70	54.22	56.92	59.67	61.83	21 32 11.80	- -	- -	- -	- -	- - - -	- - -	30.036	61.0	55.0
	38		E.	20.38	22.98	26.78	30.19	33.28										
	39	α Gruis	- -	- -	- -	- -	- -	- -	- - -	51.9	50.0	54.8	52.2	91 8 52.22	VI. 41.954	30.018	62.8	56.3
	40	Nadir	- -	- -	- -	- -	- -	- -	- - -	58.7	63.8	63.8	65.7	357 30 3.44	VI. 40.491	- -	- -	- -
	41									58.2	65.5	65.3	66.5					
	42									57.8	61.7	62.0	62.5					
6	43	Nadir at 23ʰ 35ᵐ	- -	- -	- -	- -	- -	- -	- - -	57.4	62.2	62.4	62.8	357 30 1.14	VI. 40.476	- -	- -	- -
	44									57.2	62.4	62.5	62.8					
	45	Anonymous	- -	- -	- -	- -	- -	- -	- - -	55.0	59.7	57.6	56.7	144 47 57.25	VI. 41.284	30.236	58.8	49.3

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Oct. 3 20	+ 3.54	+ 0.015	− 0.490	+ 0.457	− 0.074
4 21	+ 25.00	- -	− 0.490	+ 0.457	− 0.074
6 0	- -	- -	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	− 28.98	+ 3.58	- - -	- - -	- - - - -	- -	22 34 4.56	- - - - -	− 5.30	- -	J. M.	
3												
4												
5												
6	− 0.84	+ 3.58	+ 2 24.52	− 2 29.62	108 11 54.90	- -	22 49 27.30	−30 24 25.85	− 5.94	−30.16		
7												
8												
9	- -	- -	+ 1 22.02	− 26.00	153 0 56.57	- -	- - -	+14 24 35.82	- -	−38.19		
10												
11												
12	− 0.51	+ 3.59	- - -	- - -	- - - - -	- -	23 32 19.91	- - - - -	− 5.53	- -		
13												
14												
15												
16	- -	- -	- - -	- - -	- - - - -	40.403	- - -	- - - - -	- -	- -		
17												
18												
19												
20	− 5.82	3.60	+ 20.14	− 31.10	149 2 53.85	- -	53.36	+10 26 33.10	- -	- -		
21												
22												
23												
24	− 14.67	+ 3.60	+ 1 0.72	− 36.49	145 0 23.51	- -	11.82	+ 6 24 2.76	- -	- -		
25												
26	- -	- -	- - -	- - -	- - - - -	- -	- - -	- - - - -	- -	- -		
27												
28												
29	+ 73.94	+ 25.00	+ 11.71	+59 23.86	120 20 33.29	40.391	21 9 42.98	−18 15 47.46	- -	- -		
30												
31												
32												
33												
34	− 0.61	+ 25.00	+ 12.16	− 57.70	132 23 8.74	- -	21 33 44.81	− 6 13 12.01	− 5.28	−30.66		
35												
36												
37												
38	− 44.85	+ 25.00	- - -	- - -	148 53 32.14	- -	21 31 51.95	- - - - -	− 5.64	- -		
39	- -	- -	− 53.53	−12 24.19	90 55 34.50	- -	- - -	−47 40 46.25	- -	−22.19		
40	- -	- -	- - -	- - -	- - - - -	40.391	- - -	- - - - -	- -	- -		
41												
42												
43	- -	- -	- - -	- - -	- - - - -	40.443	- - -	- - - - -	- -	- -		
44												
45	- -	- -	− 28.80	− 37.74	144 46 50.71	40.443	- - -	+ 6 10 29.96	- -	- -		

DATE.	Number.	OBJECTS.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Oct. 6	1	Polaris S. P.	C.	45.00	7.00	30.00	49.00	9.50	1 5 28.10	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	2		A.	8.25	12.70	16.03	19.14	23.45										
	3		B.	45.73	49.27	51.94	54.70	57.93										
7	4	α Lyræ	C.	22.33	24.95	27.63	30.31	33.05	18 31 27.80	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	5		D.	57.34	60.40	63.63	66.88	69.49										
	6		E.	31.99	35.40	39.93	44.50	48.00										
	7		A.	54.85	59.00	62.19	65.26	69.05										
	8		B.	29.87	33.29	35.76	38.24	41.42										
	9	β Lyræ	C.	3.92	6.60	9.15	11.54	14.18	18 44 9.21	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	10		D.	36.74	39.63	42.68	45.72	48.22										
	11		E.	9.15	12.48	16.57	20.70	24.10										
8	12	Anonymous	- -	- -	- -	- -	- -	- -	- - -	59.7	70.7	71.4	67.8	128 44 7.40	VI. 40.288	30.290	61.3	55.3
	13									59.9	59.1	59.0	59.5					
	14	Nadir	- -	- -	- -	- -	- -	- -	- -	59.9	59.8	59.8	59.2	356 41 59.56	VI. 40.390	- -	- -	- -
	15									59.4	59.7	59.4	60.0					
	16	33 Piscium	- -	- -	- -	- -	- -	- -	- - -	64.0	63.5	61.7	59.7	131 17 62.22	VI. 42.990	- -	- -	- -
	17	γ Pegasi	- -	- -	- -	- -	- -	- -	- - -	4.2	5.5	4.6	3.4	152 8 4.42	VI. 38.080	30.292	61.2	52.3
	18	Moon I.	- -	- -	- -	- -	- -	- -	- - -	4.8	3.9	2.5	2.2	133 56 3.35	VI. 40.915	30.290	60.8	51.8
	19	20 Ceti	- -	- -	- -	- -	- -	- -	- - -	62.3	62.8	59.7	60.5	135 51 1.33	- - - -	30.292	60.2	51.3
	20									2.2	1.5	1.5	3.3					
9	21	Nadir	- -	- -	- -	- -	- -	- -	- - -	1.8	2.4	2.1	1.7	356 42 2.18	VI. 40.501	- -	- -	- -
	22									1.4	2.2	2.7	3.4					
	23		A.	52.68	57.98	62.04	65.22	70.19										
	24		B.	36.43	40.45	43.00	46.54	50.43										
	25	α Gruis	C.	18.92	21.68	24.90	28.38	31.30	21 58 25.10	61.8	56.5	61.5	57.6	90 17 59.35	VI. 42.255	30.268	64.0	56.9
	26		D.	59.43	63.00	66.80	70.55	73.71										
	27		E.	39.68	43.53	48.76	54.05	57.82										
	28		A.	15.40	18.98	21.58	24.23	27.40										
	29		B.	45.32	47.98	50.05	52.35	54.83										
	30	Neptune	C.	14.42	16.49	18.79	20.67	22.98	22 35 18.63	56.2	55.7	54.8	52.9	127 59 54.90	VI. 41.655	30.274	63.5	55.8
	31		D.	42.00	44.42	47.04	49.57	51.82										
	32		E.	9.60	12.29	15.79	19.43	22.30										
	33		A.	48.12	52.12	54.18	57.78	61.59										
	34		B.	21.98	25.20	27.66	30.11	32.99										
	35	α Piscis Austr.	C.	55.20	57.43	60.09	62.56	64.90	22 49 0.04	56.5	54.0	52.0	54.5	107 23 54.25	VI. 41.295	30.274	63.4	54.7
	36		D.	26.90	29.60	32.50	35.53	37.81										
	37		E.	58.15	61.26	65.40	69.50	72.40										
	38		A.	51.27	55.00	57.56	60.20	63.44										
	39		B.	21.60	24.47	26.65	28.70	31.41										
	40	α Pegasi	C.	51.02	53.36	55.46	57.66	60.00	22 57 55.53	56.8	56.7	55.7	56.4	152 11 56.40	VI. 43.118	30.280	63.2	55.0
	41		D.	19.20	21.86	24.53	27.00	29.00										
	42		E.	47.30	50.09	53.60	57.42	60.32										
	43	ι Piscium	- -	- -	- -	- -	- -	- -	- - -	56.0	55.2	52.4	53.7	142 35 54.32	VI. 41.296	- -	- -	- -
	44		C.	10.24	12.26	14.35	16.40	18.66										
	45	Iris	D.	38.06	40.20	43.04	45.50	47.68	42.99	54.4	54.2	53.4	53.4	147 29 53.85	VI. 44.592	30.280	63.0	53.2
	46		E.	5.39	8.13	11.67	15.27	17.96										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Oct. 6	- - -	- -	− 0.490	+ 0.457	− 0.074
7 18	+ 26.76	+ 0.025	− 0.490	+ 0.457	− 0.074
8	- - -	- -	− 0.490	+ 0.457	− 0.074
9 23	+ 27.91	+ 0.021	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	— 17.10	- -	- - -	- -	- - - -	- -	- - -	- - - -	- -	- -	J. M.	1. Observed with East clock.
2												
3												
4	— 0.22	+ 26.77	- - -	- - -	- - - -	- -	18 31 54.35	- - - -	— 2.75	- -		
5												
6												
7												
8												
9	— 0.29	26.78	- - -	- - -	- - - -	- -	18 44 35.70	- - - -	— 3.03	- -		
10												
11												
12	- - -	- -	+ 3.94	— 1 4.46	128 43 6.88	- -	- - -	— 9 5 13.87	- -	- -		12. Recorded as Neptune.
13												
14	- - -	- -	- - -	- - -	- - - -	40.403	- - -	- - - -	- -	- -		
15												
16	- - -	- -	— 1 28.60	— 59.00	131 15 34.62	- -	- - -	— 6 32 46.13	- -	—36.20		16. Mic. 41.990
17	- - -	- -	+ 1 19.56	— 26.73	152 8 57.25	- -	- - -	+14 20 36.50	- -	—37.58		
18	- - -	- -	— 17.53	+50 23.29	134 46 9.11	- -	- - -	— 3 2 11.64	- -	- -		
19	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
20												
21	- - -	- -	- - -	- - -	- - - -	40.438	- - -	- - - -	- -	- -		
22												
23												
24												
25	— 1.08	+ 27.89	— 1 2.23	—12 29.38	90 4 27.74	- -	21 58 51.91	—47 40 53.01	— 6.52	—21.32		
26												
27												
28												
29												
30	— 0.64	27.90	— 41.68	— 1 6.00	127 58 7.22	- -	22 35 45.89	— 9 47 13.53	- -	- -		
31												
32												
33												
34												
35	— 0.84	27.91	— 29.35	— 2 32.50	107 20 52.40	- -	22 49 27.11	—30 24 28.35	— 5.90	—29.29		
36												
37												
38												
39												
40	— 0.43	+ 27.91	— 1 31.78	— 26.55	152 9 58.07	- -	22 57 23.01	+14 24 37.32	— 5.44	—38.68		
41												
42												
43	- - -	- -	— 29.38	— 39.40	142 34 45.54	- -	- - -	+ 4 49 24.79	- -	—37.06		
44												
45	— 28.96	+ 27.93	— 2 22.26	— 32.69	147 26 58.90	- -	41 96	+ 9 41 38.15	- -	- -		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	57.94	62.08	64.87	67.72	71.36										
	2		B.	31.87	34.83	37.40	39.79	42.59										
Oct. 10	3	ζ Cygni	C.	4.46	7.02	9.42	11.91	14.41	21 6 9.50	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	35.98	38.59	41.71	44.59	47.00										
	5		E.	7.29	10.39	14.39	18.33	21.69										
	6																	
	7	Nadir	- -	- -	- -	- -	- -	- -	- - -	1.5	0.7	0.7	1.5	356 30 1.05	VI. 40.434	- -	- -	55.7
										1.2	0.4	1.2	1.2					
	8		A.	23.13	26.78	29.13	31.76	35.08										
	9		B.	52.91	55.73	57.71	59.86	62.46										
	10	ε Pegasi	C.	21.71	23.86	25.96	28.15	30.45	21 36 26.08	28.4	28.6	29.4	29.5	146 48 28.98	VI. 39.667	30.138	61.0	54.8
	11		D.	49.30	51.78	54.24	57.00	59.17										
	12		E.	16.88	19.49	23.23	26.81	29.50										
	13		A.	52.46	57.60	61.30	65.29	69.80										
	14		B.	35.86	40.05	43.25	46.45	49.98										
	15	α Gruis	C.	18.05	20.97	24.72	27.29	30.88	21 58 24.61	58.4	52.8	57.0	53.4	90 8 55.40	VI. 41.850	30.134	60.8	53.9
	16		D.	58.59	62.20	66.24	69.74	73.11										
	17		E.	39.32	43.09	48.09	53.59	57.43										
	18		A.	10.30	13.73	16.64	19.30	22.59										
	19		B.	40.23	42.69	44.79	47.14	49.65										
	20	Neptune	C.	9.10	11.43	13.63	15.72	18.07	13.40	60.5	60.5	60.2	59.0	127 50 60.05	VI. 42.525	30.138	61.2	53.5
	21		D.	36.76	39.00	41.51	43.92	46.21										
	22		E.	4.16	6.91	10.57	14.22	16.86										
	23		A.	47.43	57.40	54.28	57.32	61.00										
	24		B.	21.46	24.65	26.95	29.40	32.50										
	25	α Piscis Austr.	C.	54.20	56.83	59.50	61.85	64.22	22 48 59.47	61.0	58.8	57.6	58.2	107 14 58.90	VI. 41.415	- -	- -	53.5
	26		D.	26.22	28.85	31.90	34.97	37.36										
	27		E.	57.55	60.85	65.12	69.00	72.03										
	28		A.	50.60	54.27	56.80	59.63	62.87										
	29		B.	20.90	23.79	26.00	28.25	30.86										
	30	α Pegasi	C.	50.40	52.60	54.68	57.10	59.18	22 56 54.89	3.7	2.7	1.7	2.6	152 0 2.68	VI. 38.025	30.138	61.0	53.4
	31		D.	18.50	21.18	23.81	26.50	28.55										
	32		E.	46.75	49.50	53.10	56.68	59.73										
	33		C.	49.72	51.98	54.10	56.13	- -										
	34	ι Piscium	D.	15.12	17.21	19.98	22.47	24.51	23 31 22.35	3.6	3.7	4.4	0.0	2.92	- - - -	- -	- -	- -
	35		E.	41.98	44.82	48.36	51.83	54.64										
	36		A.	33.65	37.40	39.67	42.49	45.67										
	37		B.	3.36	5.97	8.31	10.52	13.04										
	38	Iris	C.	32.21	34.37	36.69	38.68	40.90	36.66	0.7	1.4	1.8	0.5	147 12 0.85	VI. 42.360	.136	61.0	52.9
	39		D.	0.06	2.43	5.09	7.65	9.91	- - -	0.5	1.0	0.7	0.2	- - - -	- - - -	- -	- -	52.8
	40		E.	27.45	30.11	33.70	37.25	40.05										
	41		C.							59.5	57.4	57.8	57.5	143 26 58.08	VI. 43.935	30.134	60.7	52.9
	42	Hygiea	D.	- -	- -	- -	- -	- -	- - -	59.4	57.5	58.2	57.4					
	43		C.	19.80	22.50	25.23	28.12	30.95										
11	44	α Lyræ	D.	55.04	58.00	61.15	64.62	67.20	18 31 1.41	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	45		E.	29.73	33.30	37.66	42.23	45.68										
	46									59.5	59.9	60.0	59.4	356 20 60.08	VI. 40.441	- -	- -	- -
	47	Nadir	-	-	- -	- -	- -	- -	- - -	59.6	59.5	60.4	61.0					
	48									59.7	59.8	60.8	61.4					

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Oct. 10 23	+ 28.50	+ 0.025	− 0.490	+ 0.457	− 0.074
11 22	+ 29.11	+ 0.025	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.31	+28.45	- - -	- - -	- - - - -	- -	21 6 37.64	- - - - -	— 4.37	- -	J. M.	
4												
5												
6												
7	- - -	- -	- - -	- - -	- - - - -	40.403	- - -	- - - - -	- -	- -		
8												
9												
10	— 0.48	28.46	+ 25.21	— 32.98	146 48 21.21	- -	21 36 54.06	+ 9 12 0.46	— 4.66	—35.25		
11												
12												
13												
14												
15	— 1.09	28.47	— 49.56	—12 31.31	89 55 34.53	- -	21 58 51.99	—47 40 46.22	— 6.50	—20.93		
16												
17												
18												
19												
20	— 0.64	28.49	— 1 12.67	— 1 5.97	127 48 41.41	- -	22 35 41.25	— 9 47 39.34	- -	- -		20. Unsteady and misty.
21												
22												
23												
24												
25	— 0.84	28.50	— 34.31	— 2 32.20	107 11 52.39	- -	22 49 27.13	—30 24 28.36	— 5.89	—29.15		
26.												
27												
28												
29												
30	— 0.43	28.50	+ 1 21.44	— 26.45	152 0 57.67	- -	22 57 22.96	+14 24 36.92	— 5.42	—38.76		
31												
32												
33												
34	— 30.42	28.51	- - -	- - -	- - - - -	- -	23 31 20.44	- - - - -	— 5.52	- -		34. —0s.62 to be applied to R. Ascension.
35												
36												
37												
38	— 0.48	28.53	— 1 7.02	— 32.66	147 10 21.17	- -	4.71	+ 9 34 0.42	- -	- -		
39	- - -	- -	- - -	- - -	- - - - -	- -	- - -	- - - - -	- -	- -		
40												
41	- - -	- -	— 2 0.96	— 37.88	143 24 19.24	- -	- - -	+ 5 47 58.49	- -	- -		
42												
43												
44	— 36.17	+ 29.02	- - -	- - -	- - - - -	- -	18 30 54.26	- - - - -	— 2.65	- -		
45												
46	- - -	- -	- - -	- - -	- - - - -	40.439	- - -	- - - - -	- -	- -		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	52.59	56.73	59.75	62.79	66.55										
	2		B.	27.63	30.84	33.36	35.89	38.99										
Oct. 11	3	β Lyræ	C.	1.69	4.22	6.80	9.30	11.91	18 44 6.84	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	34.29	37.13	40.29	43.29	45.80										
	5		E.	6.76	10.00	14.15	18.43	21.69										
	6		A.	2.40	5.90	8.62	11.20	14.53										
	7		B.	32.53	35.33	37.49	39.67	42.40										
	8	ζ Aquilæ	C.	1.90	4.05	6.24	8.50	10.73	18 58 6.30	59.7	59.0	57.8	58.5	151 14 58.55	VI. 37.932	30.060	65.3	65.5
	9		D.	30.07	32.55	35.06	37.70	39.95	- - -	57.9	59.9	57.2	58.4					
	10		E.	57.85	60.66	64.35	67.92	69.91										
	11		A.	29.82	33.19	35.80	38.39	41.59										
	12		B.	59.22	62.00	64.00	66.23	68.55										
	13	δ Aquilæ	C.	27.72	29.80	31.96	34.13	36.35	19 50 32.08	55.0	56.7	53.7	55.0	140 26 55.10	VI. 41.005	30.060	65.4	64.8
	14		D.	55.25	57.54	60.10	62.70	64.72										
	15		E.	22.49	25.00	28.64	32.10	34.82										
	16		A.	35.04	38.75	41.59	44.39	47.90										
	17	Anonymous	B.	7.26	10.06	12.40	14.70	17.53	19 32 12.30	54.5	51.2	49.8	47.7	113 50 50.80	VI. 37.855	30.060	65.5	63.5
	18		C.	38.26	40.65	43.00	45.31	47.63										
	19		A.	30.20	33.65	36.08	38.73	42.14										
	20		B.	59.75	62.40	64.62	66.80	69.27										
	21	β Aquilæ	C.	28.46	30.56	32.76	34.77	37.06	13 38 32.72	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	22		D.	55.79	58.25	60.80	63.38	65.44										
	23		E.	23.22	25.92	29.35	32.86	35.70										
	24		A.	5.58	8.93	11.61	14.13	17.36										
	25		B.	35.17	37.70	40.09	42.29	44.87										
	26	Neptune	C.	4.19	6.33	8.52	10.60	12.82	7.50	57.9	57.4	56.4	54.9	127 38 56.65	VI. 43.270	30.060	64.2	60.2
	27		D.	- -	34.06	36.62	39.18	41.62										
	28		E.	59.43	62.06	65.74	69.20	72.00										
	29		B.	20.87	23.93	26.39	28.90	31.73										
	30	α Piscis Austr.	C.	53.80	56.03	58.70	61.26	63.70	22 48 15.07	54.1	51.3	50.5	51.8	107 5 51.92	VI. 41.240	30.064	64.1	59.6
	31		D.	25.48	28.12	31.22	34.16	36.50										
	32		E.	57.01	60.00	64.01	68.26	71.36										
	33		A.	49.93	53.61	56.17	58.96	62.27										
	34		B.	20.33	23.10	25.35	27.66	30.35										
	35	α Pegasi	C.	- -	51.78	54.20	56.40	58.72	22 56 54.46	53.0	53.8	51.4	53.4	151 50 52.90	VI. 42.984	30.066	64.0	59.7
	36		D.	18.11	20.52	23.20	25.70	28.00										
	37		E.	46.11	49.03	52.56	56.13	58.96										
	38	Iris	- -	- -	- -	- -	- -	- -	- - -	56.5	57.5	57.0	56.5	146 53 56.88	VI. 39.945	30.064	63.8	59.4
	39		B.	6.00	26.00	8.00	43.00	15.00										
	40		C.	22.00	49.00	9.00	32.50	53.00	1 14 14.30	4.5	0.0	4.8	0.8	- - - -	- - - -	- -	- -	- -
14, 15	41	Polaris, S. P.	D.	8.00	48.00	13.00	34.00	17.50	- - -	4.5	0.1	4.7	2.5	228 51 2.71	VI. 38.653	30.182	61.8	60.8
	42		E.	40.00	48.00	26.00	5.00	23.00	- - -	3.2	0.4	4.8	2.2	- - - -	- - - -	- -	-	60.6
	43		A.	33.00	19.00	36.00	56.00	40.00										
	44		B.	4.00	26.00	5.50	45.00	15.00		60.5	59.8	63.8	57.2	- - - -	- - - -	30.352	57.2	54.8
15, 16	45	Polaris, S. P.	C.	26.00	51.00	15.50	39.00	57.00	1 4 28.50	62.5	61.2	67.4	60.8	228 51 2.24	VI. 38.667	350	57.5	55.1
	46		D.	15.00	53.00	18.00	35.00	25.00		63.0	67.2	61.0	62.5					
	47		E.	44.00	46.00	30.00	9.00	- -										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Oct. 11 22	+ 29.11	+ 0.025	− 0.490	+ 0.457	− 0.074
15 0	- - -	- -	− 0.490	+ 0.457	− 0.074
16 0	- - -	- -	− 0.490	+ 0.457	− 0.074

1 rev. of mic = 34″.247

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.29	+ 29.03	- - -	- - -	- - - -	- -	18 44 35.58	- - - -	— 2.94	- -	J. M.	
4												
5												
6												
7												
8	— 0.45	+ 29.03	+ 1 25.86	— 26.49	151 15 57.92	40.439	18 58 34.88	+13 48 37.17	— 3.81	—21.88		
9												
10												
11												
12												
13	— 0.54	29.06	— 19.35	— 41.03	140 25 54.72	- -	19 51 0.60	+ 2 49 33.91	— 4.30	—21.00		
14												
15												
16												
17	+ 30.01	29.05	+ 1 28.49	— 1 48.59	113 50 30.70	- -	19 33 11.36	—23 36 50.05	— 5.21	—13.62		
18												
19												
20												
21	— 0.49	29.06	- - -	- - -	- - - -	- -	19 39 1.29	- - - -	— 4.45	- -		
22												
23												
24												
25												
26	+ 0.33	29.12	— 1 36.35	— 1 5.07	127 36 15.23	- -	22 35 36.95	— 9 48 5.52	- -	- -		
27												
28												
29												
30												
31	— 17.13	29.13	— 27.43	— 2 29.99	107 2 54.50	- -	22 48 27.07	—30 24 26.25	— 5.88	—29.00		
32												
33												
34												
35	— 0.61	+ 29.13	— 1 27.16	— 26.13	151 48 59.61	- -	22 57 22.98	+14 24 38.86	— 5.44	—38.81		
36												
37												
38	- - - -	- -	+ 16.92	— 32.34	146 53 41.46	- -	- - -	+ 9 26 20.71	- -	- -		
39												
40	— 9 19.55	- -	+ 1 1.17	+ 1 14.82	228 53 18.70	- -	- - -	+88 31 2.05	- -	—29.74		
41	- - - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
42	- - - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
43												
44	- - - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
45	+ 1 24.72	- -	+ 1 0.69	+ 1 16.10	228 53 19.03	- -	- - -	+88 31 1.72	- -	—30.15		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	- -	- -	27.50	- -	- -										
	2		B.	- -	- -	56.20	- -	- -										
Oct. 16	3	Iris - - - -	C.	- -	- -	24.40	- -	- -	37 24.42	4.2	6.9	4.2	4.4	146 9 4.92	V. 32.980	30.248	51.3	42.4
	4		D.	- -	- -	53.00	- -	- -	- - -	4.2	6.8	4.0	4.7	- - - -	- - - -	- -	- -	42.3
	5		E.	- -	- -	21.00	- -	- -										
	6	Nadir - - - -	- -	- -	- -	- -	- -	-	- - -	5.0	5.8	6.1	6.5	356 21 6.01	VI. 40.570	- -	- -	- -
	7									6.5	5.8	6.4	6.0					
	8		A.	- -	- -	41.00	56.00	42.00										
	9		B.	7.00	27.00	9.00	45.00	16.00		60.8	57.8	61.2	55.8					
	10	Polaris S. P. - -	C.	26.00	50.00	12.00	33.00	52.00	1 9 38.48	61.5	56.6	61.8	56.7	228 50 59.04	VI. 38.621	30.256	58.0	59.4
	11		D.	13.00	51.00	16.00	35.00	18.00		61.2	56.7	62.0	56.4					
	12		E.	44.00	48.00	30.00	8.00	26.00										
	13									26.4	24.3	23.8	21.2	127 33 24.14	V. 37.412	30.180	58.5	51.5
17	14	Neptune - - -	- -	- -	- -	- -	- -	- -	- - -	27.4	24.5	23.4	22.1	- - - -	- - - -	- -	- -	51.0
	15									58.7	56.7	55.8	57.0					
	16	Nadir - - - -	- -	- -	- -	- -	- -	- -	- - -	57.2	56.7	56.8	56.7	356 17 56.95	VI. 40.324	- -	- -	- -
	17									57.2	56.6	56.0	57.9					
	18									55.8	53.4	53.0	53.8	146 2 53.86	VI. 35.420	30.182	58.6	48.8
	19	Iris - - - -	- -	- -	- -	- -	- -	- -	- - -	55.4	53.8	52.8	52.9					
	20		A.	40.00	48.00	24.00	7.00	21.00										
	21		B.	10.00	46.00	17.00	32.00	14.00										
19	22	Polaris S. P. - -	C.	20.00	47.00	10.00	30.50	53.00	1 6 5.30	64.8	61.1	65.1	59.4	228 50 62.84	VI. 38.744	29.934	61.5	61.5
	23		D.	2.00	25.00	3.00	42.00	13.00	- - -	64.6	61.4	65.4	60.9	- - - -	- - - -	- -	- -	61.8
	24		E.	29.00	16.00	34.00	52.00	37.00										
	25		C.	55.99	58.22	60.37	62.64	64.93										
20	26	ζ Aquilæ - - -	D.	24.24	26.53	29.31	31.88	34.10	18 58 29.40	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	27		E.	52.10	55.03	58.42	62.17	65.02										
	28		A.	23.86	27.50	29.95	32.56	35.80										
	29		B.	53.33	56.10	58.20	60.48	62.85										
	30	δ Aquilæ - - -	C.	21.76	23.99	26.06	28.24	30.46	19 17 26.19	63.2	60.8	59.0	56.8	140 29 59.69	VII. 41.231	29.880	64.5	61.9
	31		D.	49.24	51.58	54.14	56.69	58.77	- - -	62.0	60.0	58.9	56.8					
	32		E.	16.46	19.18	22.57	26.16	28.86										
	33		A.	54.87	58.46	61.03	63.56	66.95										
	34		B.	24.64	27.40	29.56	- -	34.23										
	35	α Aquilæ - - -	C.	53.50	55.66	57.96	0.00	62.16	19 42 58.94	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	36		D.	21.09	23.66	26.25	28.54	30.66										
	37		E.	48.66	51.36	54.74	58.45	61.23										
	38		A.	24.14	27.69	30.34	32.80	36.00										
	39		B.	53.76	56.53	58.53	60.83	63.22										
	40	β Aquilæ - - -	C.	22.31	24.48	26.70	28.76	31.15	19 47 26.75	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	41		D.	49.85	52.39	55.00	57.36	59.50										
	42		E.	17.33	20.00	23.52	27.00	29.65										
	43		B.	40.94	43.73	45.87	48.16	50.73										
	44	α^2 Capricorni - -	C.	10.09	12.35	14.60	16.83	19.10	- - -	63.2	63.7	59.5	58.4	124 38 61.37	VI. 43.042	29.896	64.2	58.7
	45		D.	38.09	40.69	43.30	46.03	48.15	20 9 29.05	63.9	63.8	60.5	58.0	- - - -	- - - -	- -	- -	- -
	46		E.	6.08	8.95	12.38	16.05	18.92										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Oct. 16	0	- - -	- -	− 0.490	+ 0.457	− 0.070
17	0	. .	. . .	− 0.490	+ 0.457	− 0.070
19	0	- - -	- -	− 0.490	+ 0.457	− 0.070
20	22	+ 34.80	+ 0.026	− 0.490	+ 0.457	− 0.070

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.45	- -	+ 7 8.49	— 34.54	146 15 38.87	- -	- - -	+ 8 48 18.12	- -	- -	J. M.	
4	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
5												
6	- - -	- -	- - -	- - -	- - - -	40.396	- - -	- - - -	- -	- -		
7												
8												
9												
10	—3 40.61	- -	+ 1 0.79	+ 1 14.75	228 53·14.58	- -	- - -	+88 31 6.17	- -	—30.57		
11												
12												
13	- - -	- -	+ 4 37.25	— 1 6.48	127 36 54.91	- -	- - -	— 9 50 25.84	- -	- -		
14	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
15												
16	- - -	- -	- - -	- - -	- - - -	40.412	- - -	- - - -	- -	- -		
17												
18	- - -	- -	+ 2 50.96	— 34.18	146 5 10.64	- -	- - -	+ 8 40 49.89	- -	- -		
19												
20												
21												
22	— 15.28	- -	+ 57.12	+ 1 14.07	228 53 14.03	- -	- - -	+88 31 6.72	- -	—31.71		
23	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
24												
25												
26	— 29.35	+ 34.72	- - -	- - -	- - - -	- -	18 58 34.77	- - - -	— 3.64	- -		
27												
28												
29												
30	— 0.54	34.73	— 3 26.97	— 41.24	140 25 51.48	40.421	19 18 0.38	+ 2 49 30.73	— 4.14	—20.72		
31												
32												
33												
34												
35	— 1.60	34.74	- -	- - -	- - - -	- -	19 43 32.08	- - - -	— 4.25	- -		
36												
37												
38												
39												
40	— 0.52	34.75	- - -	- - -	- - - -	- -	19 48 0.98	- - - -	— 4.29	- -		
41												
42												
43												
44	- - -	-	- -	- - -	- - - -	-	- - -	- - - -	- -	- -		
45	— 15.08	34.75	— 1 29.76	— 1 12.56	124 36 19.05	- -	20 9 48.72	—13 0 1.70	— 4.95	—20.92		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	25.14	28.35	30.96	33.86	36.90										
Oct. 20	2	Neptune - - -	B.	54.80	57.49	59.90	61.86	64.32	22 34 13.71	13.4	13.5	13.5	10.4	127 51 12.70	VII. 44.275	29.916	62.8	53.8
	3		C.	23.59	25.70	27.70	30.03	32.20										
	4		D.	51.34	53.70	56.35	58.63	61.30										
	5		B.	5.35	7.96	10.00	12.29	14.99										
	6	Weisse XXII. 752	C.	34.30	36.29	38.35	40.69	42.90	22 34 38.52	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	7		D.	2.57	4.16	6.96	9.41	11.59										
	8		B.	14.89	17.98	20.39	22.86	25.83										
	9	Piscis Austr. - -	C.	48.00	50.41	53.00	55.34	58.06	22 48 52.91	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	10		D.	19.64	22.44	25.40	28.57	30.92										
	11									58.5	57.8	56.8	58.0	357 29 57.97	VI. 40.362	- -	- -	- -
	12	Nadir - - - - - -	- -	- -	- -	- -	- -	- -	- - -	59.2	57.4	56.7	58.4					
	13									59.9	57.4	56.2	59.3					
	14	Iris - - - -	E.	39.62	42.66	45.90	49.56	52.28	23 35 46.00	36.5	32.9	33.5	33.0	145 52 33.92	VI. 39.677	29.908	62.4	55.3
	15			- -	-	- -	-	- -	- - -	35.6	34.8	31.7	33.4					
	16		A.	59.35	63.40	66.22	69.16	72.89										
	17		B.	32.83	36.00	38.30	40.61	43.40										
	18	α Andromedæ - -	C.	5.02	7.53	9.90	12.13	14.77	0 0 9.98	55.7	54.0	53.7	54.4	165 50 53.65	VI. 36.795	29.900	62.2	54.7
	19		D.	36.02	38.75	41.73	44.60	47.04	- - -	54.0	51.2	52.2	54.0					
	20		E.	6.90	10.04	13.97	17.93	21.10										
	21		A.	58.00	61.67	64.29	67.10	70.29										
	22		B.	28.40	31.36	33.53	35.80	38.29										
	23	γ Pegasi - - -	C.	57.86	59.95	62.30	64.42	66.61	0 5 2.34	2.5	1.8	0.2	0.0	151 57 1.12	VI. 38.008	29.898	62.0	54.9
	24		D.	26.16	28.60	31.27	33.90	36.06										
	25		E.	54.19	56.90	60.50	64.07	67.04										
	26		A.	22.00	39.50	18.00	0.50	5.00										
	27		B.	30.00	15.00	- -	59.00	37.00										
	28	Polaris - - -	C.	56.00	11.00	38.00	54.00	23.00	1 6 23.50	3.7	0.9	2.3	0.0	226 6 1.75	VI. 39.860	29.896	61.2	56.0
	29		D.	31.00	59.00	39.00	17.00	37.00	- - -	3.5	0.7	3.4	0.2					
	30		E.	6.00	48.00	8.00	19.00	12.00										
	31		B.	25.69	28.55	30.80	33.02	35.68										
22	32	ζ Aquilæ - - -	C.	55.17	57.21	59.48	61.67	63.90	18 58 13.97	- -	- -	- -	- -	- - - -	- - - -	- -		- -
	33		D.	23.29	25.77	28.46	30.94	33.10										
	34		E.	51.24	53.91	57.63	61.00	62.91										
	35	Polaris S. P. - -	C.	- -	44.00	6.00	29.00	50.00	1 6 46.50	- -	- -	- -	- -	- - - -	- - - -	- -	- -	-
23	36	Iris - - - -	- -	- -	- -	- -	- -	- -	- - -	8.4	9.7	10.5	8.5	145 33 9.28	VI. 37.105	30.254	46.1	36.7
	37									4.7	6.4	9.1	8.0	165 51 7.50	VI. 37.085	30.250	45.7	36.8
	38	α Andromedæ - -	- -	- -	- -	- -	- -	- -	- - -	6.0	7.0	9.1	7.8					
	39									5.7	7.8	9.9	8.5					
	40	γ Pegasi - - - -	- -	- -	- -	- -	- -	- -	- - -	2.2	4.0	3.4	3.1	151 57 3.18	VI. 37.870	.250	45.5	36.7
	41		A.	14.00	36.00	10.00	55.00	5.00										
	42		B.	24.00	8.00	26.00	50.00	28.00										
	43	Polaris - - -	C.	47.00	6.00	32.00	51.00	18.00	1 5 33.84	2.7	4.9	8.5	0.9	226 6 4.41	VI. 39.944	30.244	43.4	35.9
	44		D.	24.00	57.00	35.00	15.00	38.00	- - -	2.8	4.9	9.3	1.3	- - - -	- - - -	- -	- -	36.1
	45		E.	4.00	49.00	1.00	19.00	14.00										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Oct. 20	22	+ 34.80	+ 0.026	− 0.490	+ 0.457	− 0.074
22	19	+ 35.71	+ 0.021	− 0.490	+ 0.457	− 0.074
23	0	- - -	- -	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 13.59	+ 34.81	− 5 11.22	− 1 5.59	127 44 55.89	40.421	22 35 2.11	− 9 51 24.86	- -	- -	J. M.	
4												
5												
6	− 0.75	+ 34.81	- - -	- - -	- - - -	- -	22 35 13.76	- - - -	− 5.68	- -		
7												
8												
9	− 0.78	34.82	- - -	- - -	- - - -	- -	22 49 26.99	- - - -	− 5.79	- -		
10												
11	- -	- -	- - -	- - -	- - - -	40.421	- - -	- - - -	- -	- -		
12												
13												
14	− 57.34	34.84	+ 3 19.99	− 33.93	145 55 19.98	- -	23 35 23.50	+ 8 18 59.23	- -	- -		
15												
16												
17												
18	− 0.34	34.85	+ 2 4.18	− 10.78	165 52 47.05	- -	0 0 44.49	+28 16 26.30	− 5.88	−39.71		
19												
20												
21												
22												
23	− 0.45	34.85	+ 1 22.64	− 26.23	151 57 57.53	- -	0 5 36.74	+14 21 36.78	− 5.73	−38.46		
24												
25												
26												
27												
28	− 31.00	34.88	+ 19.21	+ 1 7.31	226 7 28.27	- -	1 6 27.38	+88 31 7.52	- -	−31.91		28. An Aurora. Stars unsteady at times.
29												
30												
31												
32												
33	− 14.92	+ 35.71	- - -	- - -	- - - -	- -	18 58 34.76	- - - -	− 3.61	- -		
34												
35	− 59.09	+ 35.83	- - -	- - -	- - - -	- -	1 6 23.24	- - - -	−80.19	- -		35. High and very unsteady.
36	- -	- -	+ 1 49.79	− 36.15	145 34 22.92	- -	- - -	+ 7 58 2.17	- -	- -		
37	- -	- -	+ 1 50.48	− 11.47	165 52 46.51	- -	- - -	+28 16 25.76	- -	−40.17		
38												
39												
40	- -	- -	+ 1 23.59	− 27.54	151 57 59.23	- -	- - -	+14 21 38.48	- -	−38.59		
41												
42												
43	+ 14.30	- -	+ 12.57	+ 1 10.99	226 7 27.97	- -	- - -	+88 31 7.22	- -	−32.94		
44	-	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									6.8	7.4	7.9	5.5	140 54 7.20	V. 40.100	30.238	42.8	34.9
Oct. 23	2	Anonymous	- -	- -	- -	- -	- -	- -	- - -	6.7	8.6	8.2	6.5	- - - -	- - - -	- -	- -	34.8
	3									5.5	5.9	8.8	6.8					
	4	Nadir	- -	- -	- -	- -	- -	- -	- - -	7.8	5.9	8.3	7.8	356 30 7.17	VI. 40.519	- -	- -	- -
	5									6.8	6.5	8.5	7.5					
	6		A.	- -	- -	- -	47.00	38.00										
	7		B.	3.00	23.00	5.00	40.00	9.00										
	8	Polaris S. P.	C.	16.50	44.00	4.00	29.00	50.00	1 11 17.39	7.0	3.9	7.8	3.0	229 3 5.14	VI. 38.861	30.206	53.8	52.2
	9		D.	9.00	46.00	12.00	33.00	16.00	- - -	6.5	2.7	7.5	2.8	- - - -	- - -	.202	54.2	52.8
	10		E.	38.00	47.00	25.00	6.00	22.00	- - -	6.4	4.5	7.8	1.8					
	11		C.	49.68	52.04	54.11	56.23	58.49										
27	12	α Aquilæ	D.	17.46	19.95	22.50	25.16	27.19	19 43 22.58	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	13		E.	44.89	47.56	51.18	54.76	57.48										
	14		A.	20.48	24.11	26.61	29.21	32.38										
	15		B.	50.03	52.81	54.83	57.08	59.55										
	16	β Aquilæ	C.	18.78	20.97	23.04	25.12	27.30	19 48 23.07	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	17		D.	46.12	48.65	51.30	53.70	55.83										
	18		E.	13.55	16.31	19.89	23.04	26.05										
	19		B.	16.00	54.00	31.00	3.00	- -	- - -	- -	- -	-	- -	- - - -	- - - -	- -	- -	- -
31	20	Polaris S. P.	C.	14.00	41.00	1.00	25.00	45.00	12 57 18.89									
	21	Nadir	- -	- -	- -	- -	- -	- -	- - -	60.7	55.4	55.8	57.6	356 41 57.38	- - - -	- -	- -	- -
	22		A.	10.00	24.00	1.00	46.00	51.00										
	23		B.	16.00	1.00	12.00	46.00	22.00										
	24	Polaris	C.	45.00	1.00	25.00	46.00	14.00	1 5 23.80	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	25		D.	15.00	43.00	25.00	5.00	26.00										
	26		E.	48.00	30.00	46.00	4.00	53.00										
Nov. 1	27	Nadir	- -	- -	- -	- -	- -	- -	- - -	58.8	54.1	48.4	51.0	356 32 53.08	VI. 40.177	- -	- -	- -
	28		A.	- -	10.00	19.00	39.00	27.00										
	29		B.	50.00	16.00	54.00	36.00	12.00										
6	30	Polaris	C.	12.00	35.00	1.00	24.00	44.00	1 7 39.79	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	31		D.	58.00	41.00	5.00	29.00	12.00										
	32		E.	37.00	42.00	25.00	8.00	19.00										
	33	α Andromedæ	- -	- -	- -	- -	- -	- -	- - -	55.5	53.2	53.1	51.9	165 53 53.42	VI. 41.900	30.228	42.2	31.8
	34		A.	- -	10.00	51.00	36.00	37.00										
	35		B.	2.00	49.00	12.00	36.00	14.00										
7	36	Polaris	C.	29.00	3.00	37.00	7.00	- -	1 1 3.52	55.2	55.8	54.0	45.6	226 5 52.65	VI. 39.527	- -	38.9	34.2
	37		D.	13.00	48.00	24.00	11.00	25.00										
	38		E.	- -	- -	50.00	7.00	53.00										
	39	α Cygni	- -	- -	- -	- -	- -	- -	- - -	62.2	62.1	61.9	60.1	182 24 1.58	VI. 39.145	30.212	48.0	46.4
	40									61.8	59.5	60.4	60.9					
	41	Nadir	- -	- -	- -	- -	- -	- -	- - -	60.8	59.9	60.4	60.6	356 30 0.51	VI. 40.291	- -	- -	- -
	42									60.8	59.8	59.8	61.4					
	43									65.5	60.9	65.4	60.4	90 9 4.72	VI. 41.109	30.228	47.5	35.2
	44	α Gruis	- -	- -	- -	- -	- -	- -	- - -	68.0	63.8	69.0	64.8					

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Oct. 23	0	- - -	- - -	− 0.490	+ 0.457	− 0.074
27	20	+ 38.35	+ 0.022	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- - -	- -	+ 2 47.28	— 43.27	140 56 11.21	- -	- - -	+ 3 19 50.46	- -	- -	J. M.	
2	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
3												
4	- - -	- -	- - -	- - -	- - - -	40.311	- - -	- - - -	- -	- -		
5												
6												
7												
8	— 5 29.56	- -	+ 49.66	+ 1 16.12	229 5 10.92	40.311	- - -	+88 31 9.83	- -	—32.94		
9	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
10												
11												
12	— 28.90	+ 38.34	- - -	- - -	- - - -	- -	19 43 32.02	- - - -	— 4.13	- -		
13												
14												
15												
16	— 0.51	+ 38.35	- - -	- - -	- - - -	- -	19 49 0.91	- - - -	— 4.17	- -		
17												
18												
19	- - -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -	D.M.	
20												
21	+ 8 4.79	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
22												
23												
24	+ 14.30	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		24. Stars steady except at latter part of observation.
25												
26												
27	- - -	- -	- - -	- - -	- - - -	40.378	- - -	- - - -	- -	- -		
28												
29												
30	— 1 25.95	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
31												
32												
33	- - -	- -	— 54.18	— 11.43	165 52 47.81	- -	- - -	+28 16 27.06	- -	—41.71		
34												
35												
36	+ 1 37.71	- -	+ 25.65	+ 1 11.22	226 7 29.52	- -	- - -	+88 31 8.77	- -	—38.36		
37												
38												
39	- - -	- -	+ 38.73	+ 6.08	182 24 46.39	- -	- - -	+44 45 25.64	- -	—39.03		
40												
41	- - -	- -	- - -	- - -	- - - -	40.276	- - -	- - - -	- -	- -		41. Mercury unsteady.
42												
43	- - -	- -	— 28.53	—13 8.30	89 55 27.89	- -	- - -	—47 40 52.86	- -	—17.37		
44												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									61.4	60.3	60.0	61.1					
Nov. 8	2	Nadir								62.3	60.9	60.8	61.9	356 30 1.43	VI. 40.304			
	3									62.9	61.6	60.9	63.1					
	4	α Bootis								63.0	61.7	64.3	64.2	157 36 3.30	VI. 43.450	30.582	46.4	43.2
11	5	Nadir								66.0	70.9	65.0	65.4	356 25 6.82	VI. 40.516			
	6									62.2	61.7	63.4	63.8	117 36 1.49	VI. 42.880	30.592	48.4	45.6
	7	Venus N.								61.3	60.6	57.1	61.8					
	8		A.	12.91	16.83	19.17	21.76	25.34										
	9		B.	43.44	45.83	47.89	50.22	52.87										
	10	α Ophiuchi	C.	12.74	14.66	16.80	19.02	21.34	17 27 16.86	64.4	62.9	63.2	62.2	150 18 3.18	VI. 41.522	30.598	50.3	45.8
	11		D.	40.54	42.70	45.37	48.24	50.47										
	12		E.	8.36	11.27	14.58	18.08	21.03										
	13		A.	42.52	47.73	51.97	56.39	61.64										
	14		B.	29.92	34.49	37.98	40.90	45.52										
	15	γ Draconis	C.	15.56	18.97	22.52	25.90	29.43	17 52 22.57	63.7	63.9	61.9	63.5	189 6 3.25	V. 44.020	30.608	50.0	45.6
	16		D.	59.59	63.30	67.54	71.47	74.87										
	17		E.	43.47	47.50	53.10	59.01	63.03										
	18	β Aquarii								64.8	64.3	62.9	62.6	136 36 3.65	VI. 42.370	30.662	45.6	38.1
	19	ι Piscium								65.9	62.5	62.0	64.8	142 26 3.80	VI. 41.350	30.668	44.7	35.5
	20	α Cassiopeæ								67.1	65.2	66.8	66.3	193 18 6.35	VI. 42.827	30.664	43.4	33.8
	21									60.5	60.8	59.5	60.2	356 39 0.43	VI. 40.358			
17	22	Nadir								60.5	61.1	60.4	60.5					33.8
	23		A.	20.92	23.93	27.67	31.13	34.43										
	24		B.	54.31	57.45	60.08	62.54	66.37										
	25	α Lyræ	C.	30.86	33.33	35.93	38.18	41.63	18 31 36.76							30.312	52.1	49.7
	26		D.	5.62	8.48	11.85	15.42	17.86										
	27		E.	40.40	43.68	48.26	52.54	56.27										
	28	α Cassiopeæ								62.5	62.4	63.0	62.4	193 27 2.58	VI. 39.279	30.203	46.2	34.7
	29	Polaris	C.	26.00	41.00	10.00	25.00	48.00	1 5 6.00	36.0	36.3	37.2	32.3	226 18 35.45		30.203	45.4	34.0
	30		A.	1.32	5.22	7.81	10.51	13.75										
	31		B.	31.40	34.36	36.45	38.58	41.25										
22	32	ε Pegasi	C.	0.42	2.65	4.76	6.81	9.06	21 36 4.79									
	33		D.	28.25	30.60	33.18	35.78	37.90										
	34		E.	55.56	58.36	61.89	65.49	68.10										
	35									60.9	68.2	60.6	60.8	356 36 3.05	VI. 42.458			
	36	Nadir								62.0	67.0	62.3	62.6					
	37		A.	18.13	22.35	24.58	27.30	30.55										
	38		B.	47.88	50.64	52.98	55.12	57.25										
	39	α Aquarii	C.	16.33	18.61	20.78	22.88	25.03	21 57 20.76									
	40		D.	43.81	46.05	48.69	51.10	53.46										
	41		E.	10.94	13.50	17.12	20.42	23.32										
	42		A.	11.82	15.23	17.85	20.50	23.86										
	43		B.	41.40	44.46	46.56	48.79	51.28										
	44	φ Pegasi?	C.	10.35	12.62	14.95	17.03	19.06	22 33 14.90									
	45		D.	38.16	40.77	43.18	45.80	47.90										
	46		E.	5.64	8.58	12.28	15.85	18.60										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d.	h.	s.	s.	s.	s.	s.
Nov. 11	17	+ 45.01	+ 0.019	− 0.490	+ 0.457	− 0.074
17	18½	+ 16.92	- -	− 0.490	+ 0.457	− 0.074
22	23	+ 49.28	+ 0.017	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	s.		
1												
2	- -	- -	- - -	- - -	- - - -	40.263	- - -	- - - -	- -	- -	D.M.	
3												
4	- -	- -	— 1 49.15	— 20.67	157 33 53.48	- -	- - -	19 57 32.73	- -	+24.48		
5	- -	- -	- -	- - -	- - - -	40.318	- - -	- - - -	- -	-		5. Mic. reading increased $0^h.200$.
6	- -	- -	— 1 27.74	— 1 37.34	117 32 56.41	- -	- - -	—20 3 24.34	- -	- -		
7												
8												
9												
10	— 0.47	+ 45.02	— 41.23	— 29.50	150 16 52.45	- -	19 27 1.41	+12 40 31.70	— 3.08	— 5.79		
11												
12												
13												
14												
15	— 0.03	+ 45.03	+ 47.72	+ 13.42	189 7 4.39	40.318	17 53 7.57	+51 30 43.64	— 0.44	—14.53		
16												
17												
18	- -	- -	— 1 10.27	— 51.02	136 34 2.36	- -	- - -	— 1 2 18.39	- -	—32.76		
19	- -	- -	— 35.34	— 41.50	142 24 46.96	- -	- -	+ 4 48 26.21	- -	—36.91		
20	- -	- -	— 1 25.93	+ 18.63	193 16 59.05	- -	- - -	+55 43 38.30	- -	—43.73		
21	- -	- -	- - -	- - -	- - - -	40.345	- - -	- - - -	- -	- -		
22	- -	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
23												
24												
25	— 0.22	+ 16.92	- - -	- - -	- - - -	- -	18 31 53.46	- - - -	— 1.87	- -		
26												
27												
28	- -	- -	+ 36.47	+ 18.28	193 27 57.33	- -	- - -	+55 43 36.58	- -	—44.94		
29	+ 16.12	- -	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		29. Very unsteady.
30												
31												
32	— 0.48	+ 49.25	- - -	- - -	- - - -	- -	21 36 53.56	- - - -	— 4.31	- -		
33												
34												
35	- -	- -	- - -	- - -	- - - -	42.369	- - -	- - - -	- -	- -		
36												
37												
38												
39	— 0.56	49.26	- - -	- - -	- - - -	- -	21 58 9.46	- - - -	— 4.72	- -	J. M.	
40												
41												
42												
43												
44	— 0.48	49.27	- - -	- - -	- - -	- -	22 34 3.69	- - - -	— 4.69	- -		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	26.08	30.19	33.12	35.91	39.70										
	2		B.	0.00	3.20	5.57	8.10	11.15										
Nov. 22	3	α Piscis Austr.	C.	33.20	35.59	38.05	40.51	43.08	22 48 38.13	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	5.00	7.88	10.52	13.50	15.87										
	5		E.	36.25	39.15	43.31	47.61	50.80										
	6		A.	29.42	33.02	35.52	38.31	41.65										
	7		B.	59.78	62.35	64.51	66.85	69.36										
	8	α Pegasi	C.	29.15	31.46	33.66	35.78	38.02	22 57 33.62	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	9		D.	57.25	59.78	62.72	65.40	67.29										
	10		E.	25.49	28.10	31.85	35.48	38.19										
	11	Polaris	C.	27.00	45.00	7.00	29.00	54.00	1 5 8.40	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	12		A.	- -	34.55	37.18	39.99	43.41										
	13		B.	2.63	5.40	7.95	10.22	12.66										
28	14	Moon, I.	C.	33.27	35.42	37.90	40.10	42.65	21 21 38.26	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	15		D.	3.02	5.34	8.21	10.87	13.20										
	16		E.	32.23	35.13	38.79	42.57	45.64										
	17		A.	57.17	60.82	63.53	66.14	69.60										
	18		B.	27.82	30.82	33.05	35.31	37.86										
	19	δ Capricorni	C.	57.51	59.79	62.11	64.35	66.68	21 38 2.13	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	20		D.	26.22	28.72	31.48	34.05	36.27										
	21		E.	57.38	60.94	64.93	67.78	70.30										
	22		A.	44.72	49.06	52.55	56.03	60.25										
	23		B.	22.70	25.89	28.82	31.49	34.97										
29	24	α Lyræ	C.	59.00	61.68	64.54	67.43	70.06	18 31 4.60	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	25		D.	33.98	36.98	40.50	43.49	46.32										
	26		E.	8.95	12.34	16.94	21.29	25.04										
	27		A.	59.46	67.00	72.65	78.35	85.03										
	28		B.	2.43	8.08	12.30	17.24	22.42										
	29	α Cephei	C.	2.64	7.37	11.88	16.35	21.08	21 14 12.05		-	- -	-	- - - -	- - - -	- -	- -	- -
	30		D.	1.15	5.95	11.32	16.86	21.48										
	31		E.	58.78	64.67	71.78	79.47	85.40										
	32		B.	- -	- -	31.16	37.50	44.97										
	33		C.	40.40	46.63	52.80	58.58	65.24	21 25 15.18	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	34	β Cephei	D.	0.19	6.70	14.17	21.65	27.57										
	35		E.	19.17	26.98	37.06	47.30	55.19										
	36		A.	31.19	36.51	40.23	43.95	48.50										
	37		B.	14.73	18.92	21.97	25.10	29.13										
	38	α Gruis	C.	57.20	60.00	63.40	66.55	69.86	21 58 3.50	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	39		D.	37.56	40.96	45.11	48.95	52.03										
	40		E.	17.97	21.70	27.18	32.48	36.31										
	41		A.	8.63	12.36	14.99	17.75	20.91										
	42		B.	38.54	41.30	43.40	45.48	48.13										
	43	δ Aquarii	C.	7.33	9.48	11.78	13.94	16.14	22 8 11.78	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	44		D.	34.99	37.52	40.09	42.66	44.96										
	45		E.	2.56	5.28	8.78	12.30	15.33										
	46		C.	51.51	53.65	55.90	58.11	60.63										
	47	Moon, I.	D.	20.38	23.03	25.77	28.40	30.72	22 0 25.79	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	48		E.	49.22	52.03	55.78	59.42	62.35										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Nov. 22 23	+ 49.28	+ 0.017	− 0.049	+ 0.457	− 0.074
28 21	+ 48.66	+ 0.015	− 0.490	+ 0.457	− 0.074
29 21	+ 48.97	+ 0.012	− 0.490	+ 0.457	− 0.074

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2											J. M.	
3	— 0.85	+ 49.28	- - -	- - -	- - - -	- -	22 49 26.56	- - - -	— 5.34	- -		
4												
5												
6												
7												
8	— 0.45	49.28	- - -	- - -	- - - -	- -	22 58 22.45	- - - -	— 4.98	- -		
9												
10												
11	+ 16.12	49.31	- - -	- - -	- - - -	- -	1 6 13.83	- - - -	— 4.98	- -		
12												
13												
14	— 61.93	48.64	- - -	- - -	- - - -	- -	21 21 28.83	- - - -	- -	- -		
15												
16												
17												
18												
19	— 0.69	+ 48.66	- - -	- - -	- - - -	- -	21 38 50.10	- - - -	— 4.73	- -		
20												
21												
22												
23												
24	— 0.22	48.94	- - -	- - -	- - - -	- -	18 31 53.32	- - - -	— 1.74	- -		
25												
26												
27												
28												
29	+ 0.30	48.97	- - -	- - -	- - - -	- -	21 15 1.32	- - - -	— 1.61	- -		
30												
31												
32												
33												
34	— 54.91	48.98	- - -	- - -	- - - -	- -	21 26 42.58	- - - -	— 0.59	- -		
35												
36												
37												
38	— 1.10	48.98	- - -	- - -	- - - -	- -	21 58 51.38	- - - -	— 5.38	- -		
39												
40												
41												
42												
43	— 0.63	48.98	- - -	- -	- - - -	- -	22 9 0.13	- - - -	— 4.70	- -		
44												
45												
46												
47	+ 34.57	48.98	- - -	- - -	- - - -	- -	22 11 49.34	- - - -	- -	- -		
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	55.93	59.44	62.00	64.64	67.78										
	2		B.	25.67	28.57	30.60	32.63	35.33										
Nov. 29	3	σ Aquarii	C.	54.70	56.90	58.99	61.36	63.56	22 21 59.22	-	-	-	-	-	-	-	-	-
	4		D.	22.41	25.03	27.96	30.50	32.60										
	5		E.	50.39	53.17	56.86	60.39	63.20										
	6		A.	26.65	30.59	33.49	36.49	40.30										
	7		B.	0.54	3.50	5.92	8.75	11.59										
	8	α Piscis Australis	C.	33.61	36.02	38.45	40.90	43.38	22 48 38.60	-	-	-	-	-	-	-	-	-
	9		D.	5.25	8.00	11.10	13.78	16.45										
	10		E.	36.83	39.92	43.99	48.09	51.43										
	11		A.	- -	33.49	36.12	38.75	41.94										
	12		B.	0.25	2.91	5.28	7.26	9.85										
	13	α Pegasi	C.	29.60	31.85	33.98	36.15	38.45	22 57 36.71	-	-	-	-	-	-	-	-	-
	14		D.	57.81	60.27	62.96	65.33	67.68										
	15		E.	25.95	28.63	32.13	35.82	38.60										
	16	Polaris	- -	17.50	35.00	59.00	22.00	46.50	1 5 0.00	-	-	-	-	-	-	-	-	-
	17									57.4	55.3	63.9	69.4					
	18	Nadir	- -	- -	- -	- -	- -	- -	- - -	56.9	55.8	63.6	59.0	356 38 59.77	VI. 40.282	-	-	-
	19									57.7	55.2	63.4	59.7					
	20		C.	30.77	33.17	35.63	37.88	39.82										
Dec. 5	21	α Pegasi	D.	59.20	61.51	64.18	66.93	69.48	22 56 4.43	-	-	-	-	-	-	-	-	-
	22		E.	27.40	29.95	33.45	36.99	40.04										
	23		A.	58.21	13.24	24.40	35.87	49.55										
	24		B.	6.20	17.89	27.95	36.61	48.04										
	25	γ Cephei	C.	11.68	20.34	29.27	39.24	49.12	22 32 30.35	-	-	-	-	-	-	30.406	42.3	36.0
	26		D.	11.21	21.88	32.78	43.51	53.86										
	27		E.	10.84	23.12	36.63	52.70	64.69										
	28		C.	12.86	16.58	20.46	23.91	27.98										
	29	α Cassiopeiæ	D.	1.30	5.44	9.99	14.28	18.43	0 31 10.23	-	-	-	-	-	-	-	-	-
	30		E.	49.41	54.24	60.66	66.32	71.63										
	31		B.	17.59	20.30	22.54	24.60	27.30										
	32		C.	46.23	48.69	50.59	52.90	55.27										
	33	δ Ceti	D.	14.09	16.49	18.99	21.99	23.78	1 15 5.10	-	-	-	-	-	-	-	-	-
	34		E.	41.78	44.54	47.89	51.79	54.71										
	35		B.	27.50	30.51	33.00	35.05	38.00										
	36		C.	58.46	60.83	63.05	65.36	68.00										
	37	α Arietis	D.	28.02	30.62	33.51	- -	38.54	1 58 17.46	-	-	-	-	-	-	-	-	-
	38		E.	57.53	60.40	64.21	68.19	71.00										
	39		A.	15.20	19.10	21.69	24.45	27.66										
	40		B.	45.82	48.40	50.74	53.10	- -										
	41	Moon, I.	C.	15.35	17.68	20.00	22.28	24.73	13.32	-	-	-	-	-	-	-	-	-
	42		D.	41.75	43.97	46.44	- -	51.70										
	43		E.	12.56	14.72	- -	- -	22.31										
	44		A.	- -	- -	10.12	13.62	15.89										
	45		B.	- -	- -	35.96	- -	41.00										
	46	o Tauri	C.	59.97	62.16	64.49	66.45	68.68	3 16 12.17	-	-	-	-	-	-	-	-	-
	47		D.	27.60	29.83	32.47	35.26	37.40										
	48		E.	52.75	55.03	57.72	- -	64.80										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851. d. h.	s.	s.	s.	s.	s.
Nov. 29 21	+ 48.97	+ 0.012	− 0.490	+ 0.457	− 0.074
Dec. 5 0	+ 47.40	+ 0.017	− 0.740	+ 0.580	+ 0.079

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.64	+ 43.98	- - -	- - -	- - - -	- -	22 22 47.56	- - - -	— 4.79	- -	J. M.	
4												
5												
6												
7												
8	— 0.85	48.99	- - -	- - -	- - - -	- -	22 49 26.74	- - - -	— 5.23	- -		
9												
10												
11												
12												
13	— 3.11	48.99	- - -	- - -	- - - -	- -	22 58 22.59	- - - -	— 4.88	- -		
14												
15												
16	+ 16.15	49.02	- - -	- - -	- - - -	- -	1 6 5.17	- - - -	—67.33	- -		
17												
18	- - -	- -	- - -	- - -	- - - -	40.288	- - -	- - - -	- -	- -		
19												
20												
21	— 29.51	+ 47.38	- - -	- - -	- - - -	- -	22 57 22.30	- - - -	— 4.81	- -		21. Mercury unsteady.
22												
23												
24												
25	+ 2.08	47.39	- - -	- - -	- - - -	- -	22 33 19.82	- - - -	— 5.58	- -		
26												
27												
28												
29	— 49.61	47.41	- - -	- - -	- - - -	- -	31 8.03	- - - -	— 6.61	- -		
30												
31												
32												
33	— 15.01	47.42	- - -	- - -	- - - -	- -	1 15 37.51	- - - -	— 5.41	- -		
34												
35												
36												
37	— 14.70	47.43	- - -	- - -	- - - -	- -	1 58 50.19	- - - -	— 6.48	- -		
38												
39												
40												
41	+1 9.15	47.44	- - -	- - -	- - - -	- -	2 51 9.91	- - -	- -	- -		
42												
43												
44												
45												
46	— 8.54	+ 47.45	- -	- - -	- - - -	- -	3 16 51.08	- - - -	— 6.27	- -		
47												
48												

DATE.	Number.	OBJECTS.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1851.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	59.05	62.18	64.64	67.16	70.12										
	2		C.	32.07	34.68	37.20	39.79	42.34										
Dec. 11	3	α Piscis Australis	D.	4.06	6.47	9.64	12.49	14.99	22 48 53 47	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		E.	35.30	38.30	42.43	46.75	49.83										
	5		A.	28.59	32.15	34.62	37.36	40.68										
	6		B.	58.99	61.29	63.79	66.22	68.80										
	7	α Pegasi	C.	28.11	30.47	32.77	34.79	37.00	22 56 32.68	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	8		D.	56.27	58.90	61.45	64.37	66.27										
	9		E.	24.71	27.15	30.66	34.40	37.16										
	10		C.	39.00	41.67	43.88	46.40	49.01										
19	11	α Piscis Australis	D.	10.67	13.33	16.41	19.33	21.84	22 48 16.51	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	12		E.	41.91	45.22	48.99	53.38	56.70										
	13		A.	35.40	39.02	41.56	44.23	47.52										
	14		B.	5.53	8.54	10.68	12.98	15.34										
	15	α Pegasi	C.	35.00	37.28	39.48	41.60	43.97	22 56 39.51	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	16		D.	3.40	5.80	8.49	11.19	13.25										
	17		E.	31.29	34.19	37.19	40.91	43.90										
	18		A.	59.58	15.21	26.49	38.30	52.18										
	19		B.	8.80	20.50	30.00	39.02	50.68										
	20	γ Cephei	C.	14.33	23.00	33.00	41.33	51.58	23 32 32.82	- -	- -	- -	- -	- - - -	VI. 39.850	29.674	29.2	22.5
	21		D.	14.80	23.82	35.60	46.22	55.88										
	22		E.	12.83	24.70	39.37	55.80	67.39										
	23		B.	23.89	26.90	29.19	31.68	34.52										
	24		C.	56.25	58.53	60.97	63.26	65.98										
	25	α Andromedæ	D.	27.13	30.00	32.67	35.40	37.93	0 0 16.95	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	26		E.	57.98	60.90	64.73	69.11	72.02										
	27									58.2	65.5	65.1	58.0					
	28	Nadir	- -	- -	- -	- -	- -	- -	- - -	56.0	65.0	65.7	59.3	356 39 1.55	VI. 40.239	- -	- -	- -
	29									56.1	65.5	65.7	58.5					
	30									55.8	67.6	65.8	56.8					
	31	Saturn I & II, N.L.	- -	- -	- -	- -	- -	- -	- - -	57.9	68.3	65.7	56.0	145 57 1.96	VI. 40.750	29.630	28.2	23.6
	32	" " S.L.	- -	- -	- -	- -	- -	- -	- - -	57.7	67.8	66.4	57.7		41.210			
	33									60.8	68.5	68.8	59.9					
	34	α Arietis	- -	- -	- -	- -	- -	- -	- - -	59.7	69.2	68.9	60.3	160 33 4.54	VI. 43.446	29.626	28.2	24.5
	35		A.	- -	-	- -	46.12	49.02										
	36		B.	7.39	9.98	12.32	14.52	16.71										
23	37	α Pegasi	C.	36.79	38.64	40.48	43.38	45.57	22 56 49.43	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	38		D.	5.00	7.47	9.98	12.91	14.77										
	39		E.	33.00	35.81	38.85	42.84	45.95										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1851.						
d.	h.	s.	s.	s.	s.	s.
Dec. 11	23	+ 50.11	+ 0.18	− 0.740	+ 0.580	+ 0.079
19	23	+ 43.15	− 0.16	− 0.740	+ 0.580	+ 0.079
23	23	+ 41.45	− 0.18	− 0.740	+ 0.580	+ 0.079

1 rev. of mic. = 34″.247.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 17.28	+ 50.10	- - -	- - -	- - - -	- -	22 49 26.29	- - - -	— 5.06	- -	J. M.	
4												
5												
6												
7	— 0.52	50.11	- - -	- - -	- - - -	- -	22 57 22.27	- - - -	— 4.72	- -		
8												
9												
10												
11	— 33.55	43.15	- - -	- - -	- - - -	- -	22 48 26.11	- - - -	— 4.95	- -		
12												
13												
14												
15	— 0.52	+ 43.15	- - -	- - -	- - - -	- -	22 57 22.14	- - - -	— 4.63	- -		
16												
17												
18												
19												
20	+ 2.08	+ 43.14	- - -	- - -	- - - -	- -	23 33 18.04	- - -	— 4.27	- -		
21												
22												
23												
24												
25	— 16.29	43.12	- - -	- - -	- - - -	- -	0 0 43.78	- - - -	— 5.25	- -		
26												
27												
28	- - -	- -	- - -	- - -	- - - -	40.194	- - -	- - - -	- -	- -		
29												
30												
31	- - -	-	— 19.04	— 35.61	145 56 7.31	- -	- - -	+ 8 10 38.68	- -	- -		
32			— 34.79	— 35.62	145 55 51.55							
33												
34	- - -	- -	— 1 51.37	— 17.56	160 30 55.61	- -	- - -	+22 45 34.86	- -	—33.69		
35												
36												
37	— 8.80	+ 41.45	- - -	. .	- - - -	. -	22 57 22.08	- - - -	— 4.59	- -		
38												
39												

OBSERVATIONS

WITH THE

EQUATORIAL,

1851.

FLORA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Jan. 1	Weisse O, 820	36.5	48.2	1.0	9 0 48.57	1 53.240	+ 0 18.50	— 27.384
	Flora	55.0	7.0	19.2	1 7.07	2 50.405		
	Weisse O, 820	38.2	50.3	. .	2 49 87	1 53.306	+ 0 19.70	— 26.908
	Flora	57.0	9.7	22.0	3 9.57	2 49.995		
	Weisse O, 820	6.0	18.2	. .	5 18.50	1 53.140	+ 0 19.40	— 27.098
	Flora	25.0	38.0	50.7	5 37.90	2 50.019		
	Weisse O, 820	44.0	56.5	8.5	7 56.33	1 53.402	+ 0 19.67	— 26.542
	Flora	4.0	. .	28.0	8 16.00	2 49.725		
	Weisse O, 820	30.2	43.0	55.0	11 42.73	1 53.439	+ 0 19.84	— 26.555
	Flora	50.0	2.7	15.0	12 2.57	2 49.775		
	Weisse O, 820	31.2	44.0	. .	16 43.77	1 53.402	+ 0 19.90	— 26.682
	Flora	51.0	4.0	16.0	17 3.67	2 49.865		
13	Flora	9.0	22.0	34.0	8 28 21.73	3 42.181		
	Weisse I, 138	26.0	38.3	51.0	30 38.43	1 48.580	— 2 16.70	— 53.690
	Flora	9.1	21.3	34.0	32 21.47	3 41.909		
	Weisse I, 138	25.5	37.5	50.2	34 37.73	1 48.510	— 2 16.26	— 53.488
	Flora	46.2	59.0	11.2	35 58.80	3 41.920		
	Weisse I, 138	2.5	14.7	27.0	38 14.73	1 48.320	— 2 15.93	— 53.689
	Flora	32.5	45.0	57.0	44 44.83	3 41.435		
	Weisse I, 138	47.9	0.3	12.5	47 0.23	1 48.358	— 2 15.40	— 53.166
	Flora	38.0	50.8	0.3	48 49.70	3 41.252		
	Weisse I, 138	52.7	5.6	17.9	51 5.73	1 48.332	— 2 16.03	— 53.009
	Flora	32.9	45.0	57.0	53 44.97	3 41.114		
	Weisse I, 138	47.4	59.3	12.0	55 59.57	1 48.381	— 2 14.60	— 52.822
	Flora	9.0	21.3	34.0	58 21.43	3 41.012		
	Weisse I, 138	23.5	36.1	48.0	9 0 35.87	1 48.239	— 2 14.44	— 52.862
16	Flora	25.0	37.0	49.0	7 13 37.00	2 32.050		
	Weisse I, 197	57.0	9.2	22.0	14 9.40	2 25.070	— 0 32.40	— 7.040
	Flora	58.2	11.3	23.5	16 11.00	2 31.832		
	Weisse I, 197	31.0	43.2	55.0	16 43.07	2 25.071	— 0 32.07	— 6.761
	Flora	45.1	57.0	10.2	18 57.43	2 31.595		
	Weisse I, 197	17.3	29.5	42.0	19 29.60	2 25.130	— 0 32.17	— 6.465
	Flora	54.2	7.2	19.5	22 6.97	2 31.830		
	Weisse I, 197	26.0	39.1	51.2	22 38.77	2 25.210	— 0 31.80	— 6.620

RESULTS.

Corr. Chron. + 0 m. 12.48 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse O, 820,	0 48 8.77	— 1 36 19.11

Flora—Weisse O, 820,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 8 5.28	+ 0 19.50	— 6 52.84
	Δt +	.05	
	Δϱ —	.07	— .28
	p +	.20	+ 3.44

Corr. Chron. + 0 m. 14.15 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 138,	1 9 29.63	+ 1 13 30.15

Flora—Weisse I, 138,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 43 26.00	— 2 15.62	—13 38.37
	Δt —	.37	
	Δϱ —	.02	— .51
	p +	.19	+ 3.05

Corr. Chron. + 0 m. 15.12 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 197	1 12 39.13	+ 1 42 6.44

Flora—Weisse I, 197,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 17 58.22	— 0 32.11	— 1 43.30
	Δt —	.09	
	Δϱ	.00	— .05
	p +	.12	+ 2.95

NOTE. — All the Observations made with the Equatorial in the year 1851 are by Mr. James Ferguson.

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 1	Victoria	21.0	33.5	- -	7 39 33.49	3 26.560		
	B.A.C., 129	25.1	37.0	49.0	43 37.03	2 22.395	− 4 3.54	− 34.035
	Victoria	49.1	- -	13.7	48 1.40	3 36.490		
	B.A.C., 129	52.0	4.0	16.0	51 4.00	2 22.459	− 4 2.60	− 33.901
	Victoria	17.2	29.3	41.3	54 29.27	3 26.360		
	B.A.C., 129	19.0	32.0	44.0	58 31.67	2 22.540	− 4 2.40	− 33.690
	Victoria	3.2	15.6	28.0	8 10 15.60	3 26.008		
	B.A.C., 129	4.0	17.2	29.3	14 16.83	2 22.535	− 4 1.23	− 33.343
	Victoria	58.0	10.3	22.0	18 10.10	3 26.101		
	B.A.C., 129	59.0	11.2	23.5	21 11.23	2 22.681	− 4 1.13	− 33.290
	Victoria	6.4	19.0	31.3	25 18.90	3 26.066		
	B.A.C., 129	7.2	19.4	32.0	29 19.53	2 22.761	− 4 0.63	− 33.175
12	Victoria	19.2	31.2	44.0	7 8 31.47	2 35.395		
	Weisse O, 635	35.0	- -	59.3	8 47.15	2 36.010	− 0 15.68	+ 0.615
	Weisse O, 638	42.0	53.2	6.0	8 53.73	2 23.710	− 0 22.26	− 11.685
	Victoria	23.5	36.2	- -	11 36.23	2 35.120		
	Weisse O, 635	39.0	51.5	4.0	11 51.50	2 36.131	− 0 15.27	+ 1.011
	Weisse O, 638	46.0	58.2	10.3	11 58.17	2 23.579	− 0 21.94	− 11.541
	Victoria	28.9	41.0	- -	14 41.03	2 35.150		
	Weisse O, 635	44.0	56.2	9.0	14 56.40	2 36.062	− 0 15.37	+ 0.912
	Weisse O, 638	50.0	3.0	15.3	15 2.77	2 23.635	− 0 21.74	− 11.515
	Victoria	2.1	14.5	27.0	18 14.53	2 35.032		
	Weisse O, 635	18.5	- -	- -	18 30.97	2 35.950	− 0 16.44	+ 0.918
	Weisse O, 638	25.0	36.0	49.0	18 36.67	2 23.552	− 0 22.14	− 11.480
	Victoria	10.2	22.0	- -	21 22.03	2 34.995		
	Weisse O, 635	25.5	38.0	- -	21 38.03	2 36.020	− 0 16.00	+ 1.025
	Weisse O, 638	31.2	44.0	56.2	21 43.80	2 23.551	− 0 21.77	− 11.444
	Victoria	35.0	47.2	59.0	23 47.07	2 34.852		
	Weisse O, 635	49.5	2.0	14.6	24 2.03	2 35.975	− 0 14.96	+ 1.123
	Victoria	48.0	0.0	12.5	27 0.17	2 34.760		
	Weisse O, 635	2.9	15.3	27.1	27 15.10	2 35.915	− 0 14.93	+ 1.155
	Victoria	15.2	28.0	40.2	35 27.80	2 34.572		
	Weisse O, 635	30.0	42.0	54.1	35 42.03	2 35.721	− 0 14.23	+ 1.149
	Victoria	36.2	49.0	1.0	41 48.73	2 34.440		
	Weisse O, 635	50.5	2.7	14.9	42 2.70	2 35.811	− 0 13.97	+ 1.371
	Victoria	8.2	20.9	33.0	44 20.70	2 34.292		
	Weisse O, 635	22.0	34.5	46.9	44 34.47	2 35.795	− 0 13.77	+ 1.503
	Victoria	4.1	16.0	28.5	46 16.20	2 34.432		
	Weisse O, 635	17.5	29.6	42.0	46 29.70	2 35.700	− 0 13.50	+ 1.268
	Victoria	35.7	47.5	0.5	48 47.90	2 34.269		
	Weisse O, 635	49.0	1.3	14.1	49 1.47	2 35.812	− 0 13.57	+ 1.543
	Victoria	23.0	36.0	48.0	50 35.67	2 34.195		
	Weisse O, 635	37.1	49.2	1.3	50 49.20	2 35.738	− 0 13.53	+ 1.543
13	Victoria	46.0	58.2	11.0	7 2 58.40	1 40.770		
	Weisse O, 657	54.0	6.7	19.2	3 6.63	1 47.451	− 0 8.23	+ 6.681
	Victoria	24.1	- -	49.0	4 36.55	1 40.619		
	Weisse O, 657	32.5	45.0	- -	4 45.08	1 47.450	− 0 8.53	+ 6.831

RESULTS.

Corr. Chron. + 0 m. 12.48 s.

	α	δ
	h. m. s.	° ′ ″
129 B.A.C.,	0 24 41.79	+ 6 7 48.89

Victoria—129 B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 2 50.61	− 4 1.92	− 8 35.98
	Δt	− .66	
	Δρ	.00	− .24
	p	+ .13	+ 2.28

Corr. Chron. + 0 m. 13.53 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 635,	0 36 36.31	+ 6 57 17.25
Weisse O, 638,	0 36 42.84	+ 7 0 20.02

Victoria—Weisse O, 635,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 30 25.03	− 0 14.71	+ 0 17.89
	Δt	− .04	
	Δρ	.00	+ 0 .01
	p	+ .11	+ 2.08

Victoria—Weisse O, 638,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 15 6.59	− 0 21.97	− 2 57.25
	Δt	− .06	
	Δρ	.00	− .06
	p	+ .10	+ 2.05

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 13	Victoria	22.0	34.0	47.0	7 6 34.33	1 40.740		
	Weisse O, 657	29.1	42.0	54.5	6 41.87	1 47.485	— 0 7.54	+ 6.745
	Victoria	49.0		14.0	9 1.50	1 40.586		
	Weisse O, 657	57.2	9.0	21.3	9 9.17	1 47.297	— 0 7.67	+ 6.711
	Victoria	35.0		0.2	10 47.60	1 40.500		
	Weisse O, 657	42.5		7.5	10 55.00	1 47.260	— 0 7.40	+ 6.760
	Victoria	8.1		33.0	13 20.55	1 40.550		
	Weisse O, 657	15.0		40.0	13 27.50	1 47.242	— 0 6.95	+ 6.692
	Victoria	57.2			15 9.71	1 40.488		
	Weisse O, 657	4.1		29.0	15 16.55	1 47.220	— 0 6.84	+ 6.732
	Victoria	49.3		14.5	17 1.90	1 40.501		
	Weisse O, 657	56.8		21.6	17 9.20	1 47.242	— 0 7.30	+ 6.741
	Victoria	31.2	44.0	56.0	20 43.73	1 40.339		
	Weisse O, 657	38.2	51.3	3.2	20 50.90	1 47.228	— 0 7.17	+ 6.889
	Victoria	11.2	23.3	36.2	22 23.57	1 40.181		
	Weisse O, 657	18.3	30.5	43.2	22 30.67	1 47.302	— 0 7.10	+ 7.121
	Victoria	41.9	54.0	6.5	23 54.13	1 40.208		
	Weisse O, 657	48.0	1.2	13.3	24 0.97	1 47.259	— 0 6.84	+ 7.051
	Victoria	14.9	27.0	39.2	26 27.03	1 40.051		
	Weisse O, 657	21.3	33.7	46.0	26 33.67	1 47.249	— 0 6.64	+ 7.198
	Victoria	0.3	13.3	25.1	28 12.90	1 39.936		
	Weisse O, 657	7.2	19.2	31.7	28 19.37	1 47.068	— 0 6.47	+ 7.132
	Victoria	35.3	47.2	59.7	29 47.40	1 39.948		
	Weisse O, 657	41.5	54.0	6.3	29 53.93	1 47.112	— 0 6.53	+ 7.164
	Victoria	22.0	34.7	47.0	31 34.57	1 39.922		
	Weisse O, 657	28.1	40.9	53.2	31 40.73	1 47.098	— 0 6.16	+ 7.176
	Victoria	5.7	18.0	30.7	33 18.13	1 39.760		
	Weisse O, 657	11.0	24.2	36.8	33 24.00	1 46.990	— 0 5.87	+ 7.230
	Victoria	39.2	51.0	3.5	41 51.23	1 39.833		
	Weisse O, 657	44.9	57.0	9.2	41 57.03	1 47.039	— 0 5.80	+ 7.206
24	Victoria	19.2	32.0	45.0	8 13 32.07	3 24.262		
	Weisse O, 965		51.9	4.2	13 51.88	2 24.832	— 0 19.81	— 29.366
	Victoria	47.2	59.2		19 59.18	3 24.308		
	Weisse O, 965	6.2	18.7	31.3	20 18.73	2 24.982	— 0 19.55	— 29.262
	Victoria	43.0	55.7		21 55.68	3 24.339		
	Weisse O, 965	2.0	14.2	27.1	22 14.43	2 24.929	— 0 18.75	— 29.346
	Victoria	28.1	40.0	52.0	24 40.03	3 24.362		
	Weisse O, 965	47.0	59.2	11.9	24 59.37	2 24.880	— 0 19.34	— 29.418
	Victoria	17.0	29.0	41.0	51 29.00	3 23.342		
	Weisse O, 965			59.0	51 46.33	2 24.500	— 0 17.33	— 28.778
	Victoria	59.0	12.0	24.0	55 11.67	3 23.238		
	Weisse O, 965	16.2	29.0	41.2	55 28.80	2 24.430	— 0 17.13	— 28.744
	Victoria	41.5	54.0		58 53.98	3 24.722		
	Weisse O, 965	57.9	10.5	23.0	59 10.47	2 25.902	— 0 16.49	— 28.756

RESULTS.

Corr. Chron. + 0 m. 14.11 s.

	α	δ
Weisse O, 657,	0 h. 37 m. 56.78 s.	+ 7° 1′ 37″.66

Victoria—Weisse O, 657,

		Δα	Δδ
M. T.	7 h. 20 m. 7.49 s.	— 0 m. 7.00 s.	+ 1′ 46″.64
	Δt	— .02	
	Δρ	.00	+ .04
	p	+ .11	+ 2.04

Corr. Chron. + 0 m. 19.02 s.

	α	δ
Weisse O, 965,	0 h. 54 m. 55.35 s.	+ 8° 19′ 45″.91

Victoria—Weisse O, 965,

		Δα	Δδ
M. T.	8 h. 35 m. 24.96 s.	— 0 m. 18.34 s.	— 7′ 27″.20
	Δt	— .05	
	Δρ	— .01	— .28
	p	+ .16	+ 1.98

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 25	Weisse O, 965	31.5	44.0	56.0	8 3 43.83	2 26.031	+ 1 12.12	— 3.894
	Victoria	- -	56.0	9.0	4 55.95	2 29.925		
	Weisse O, 965	15.0	27.1	39.0	6 27.03	2 25.860	+ 1 12.92	— 4.209
	Victoria	- -	40.0	52.0	7 39.95	2 30.069		
	Weisse O, 965	4.0	16.3	29.1	9 16.47	2 25.962	+ 1 13.13	— 4.108
	Victoria	17.2	-	42.0	10 29.60	2 30.070		
	Weisse O, 965	33.1	46.0	58.3	11 45.80	2 25.930	+ 1 13.03	— 3.948
	Victoria	46.5	59.0	11.0	12 58.83	2 29.878		
	Weisse O, 965	2.0	14.3	27.2	14 14.50	2 25.960	+ 1 13.37	— 3.795
	Victoria	15.3	28.0	40.3	15 27.87	2 29.755		
	Weisse O, 965	21.3	34.2	47.0	18 34.16	2 26.120	+ 1 14.79	— 3.651
	Victoria	36.0	49.0	- -	19 48.95	2 29.771		
31	Victoria	4.0	17.2	29.0	6 31 16.73	2 49.490		
	Weisse I, 100	37.2	49.3	2.7	32 49.73	2 56.222	— 1 33.00	+ 6.732
	Weisse I, 113	- -	46.0	59.0	33 46.02	2 46.520	— 2 29.29	— 2.970
	Victoria	38.2	- -	3.0	37 50.60	2 49.250		
	Weisse I, 100	11.2	23.2	35.7	39 23.37	2 56.272	— 1 32.77	+ 7.022
	Weisse I, 113	- -	19.2	31.2	40 19.22	2 46.469	— 2 28.62	— 2.781
	Victoria	56.2	-	21.2	42 8.70	2 49.181		
	Weisse I, 100	28.3	41.3	53.7	43 41.40	2 56.300	— 1 32.70	+ 7.119
	Weisse I, 113	24.2	36.8	49.0	44 36.67	2 46.400	— 2 27.97	— 2.781
	Weisse I, 114	28.0	- -	52.0	- -	3 45.352		
	Victoria	58.2	- -	23.0	47 10.60	2 49.112		
	Weisse I, 100	29.7	42.0	54.7	48 42.13	2 56.209	— 1 31.53	+ 7.097
	Weisse I, 113	25.0	38.0	50.3	49 37.77	2 46.371	— 2 27.17	— 2.741
	Victoria	33.0	45.7	58.0	51 45.57	2 49.118		
	Weisse I, 100	4.7	17.0	29.7	53 17.13	2 56.372	— 1 31.56	+ 7.254
	Weisse I, 113	0.9	13.0	25.7	54 13.20	2 46.462	— 2 27.63	— 2.656
	Victoria	27.2	39.4	52.0	55 39.53	2 48.898		
	Weisse I, 100	59.1	11.2	24.0	57 11.43	2 56.472	— 1 31.90	+ 7.574
	Weisse I, 113	54.0	7.0	19.3	58 6.77	2 46.501	— 2 27.24	— 2.397
	Victoria	37.5	50.2	3.0	7 0 50.23	2 49.022		
	Weisse I, 100	8.0	21.0	33.0	2 20.67	2 56.511	— 1 30.44	+ 7.489
	Weisse I, 113	4.4	17.2	29.6	3 17.07	2 46.489	— 2 26.84	— 2.533
	Victoria	22.0	34.2	46.5	4 34.23	2 48.680		
	Weisse I, 100	52.7	5.1	17.9	6 5.23	2 56.339	— 1 31.00	+ 7.659
	Weisse I, 113	48.1	0.3	13.1	7 0.05	2 46.590	— 2 25.82	— 2.090
	Victoria	49.0	- -	14.0	9 1.55	2 48.511		
	Weisse I, 100	19.3	31.9	44.0	10 31.73	2 56.379	— 1 30.18	+ 7.868
	Weisse I, 113	14.3	27.5	40.0	11 27.27	2 46.468	— 2 25.72	— 2.043
	Victoria	44.7	58.0	9.0	12 57.23	2 48.581		
	Weisse I, 100	15.0	27.5	40.0	13 27.50	2 56.345	— 1 30.27	+ 7.764
	Weisse I, 113	11.0	23.0	36.0	14 23.33	2 46.399	— 2 26.10	— 2.182
Feb. 6	Victoria	0.8	13.0	25.0	6 46 12.93	2 26.939		
	Weisse I, 299	58.0	10.5	22.7	49 10.40	2 38.660	— 2 57.47	+ 11.721
	Victoria	2.0	14.5	27.1	51 14.53	2 26.832		
	Weisse I, 299	59.3	11.8	24.1	54 11.73	2 38.770	— 2 57.20	+ 11.938

RESULTS.

Jan. 25: Corr. Chron. m. s. + 0 19.56

	α h. m. s.	δ ° ′ ″
Weisse O, 965,	0 54 55.33	+ 8 19 45.83

Victoria—Weisse O, 965,

		Δα m. s.	Δδ ′ ″
M. T.	8 12 23.08	+ 1 13.23	— 1 0.46
	Δt	+ .20	
	Δρ	.00	— .03
	p	+ .15	+ 1.95

Jan. 31: Corr. Chron. m. s. + 0 23.66

	α h. m. s.	δ ° ′ ″
Weisse I, 100,	1 7 2.83	+ 8 56 58.48
Weisse I, 113,	1 7 58.52	8 59 32.34

Victoria—Weisse I, 100,

		Δα m. s.	Δδ ′ ″
M. T.	6 53 43.16	— 1 31.53	+ 1 53.05
	Δt	— .18	
	Δρ	.00	+ .05
	p	+ .11	+ 1.77

Victoria—Weisse I, 113,

		Δα m. s.	Δδ ′ ″
M. T.	6 53 43.16	— 2 27.24	— 0 38.65
	Δt	— .40	
	Δρ	.00	— .02
	p	+ .11	+ 1.77

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 6	Victoria	0.9	- -	26.0	6 56 13.45	2 26.790		
	Weisse I, 299	58.1	10.3	22.7	59 10.37	2 38.739	− 2 56.92	+ 11.949
	Victoria	48.5	1.2	13.0	7 1 0.90	2 26.578		
	Weisse I, 299	45.1	57.3	10.3	3 57.57	2 38.741	− 2 56.67	+ 12.163
	Victoria	32.0	45.0	57.0	7 46.67	2 26.480		
	Weisse I, 299	28.2	40.9	53.0	10 40.70	2 38.741	− 2 54.03	+ 12.261
	Victoria	0.2	12.4	24.6	12 12.40	2 26.345		
	Weisse I, 299	55.7	7.9	20.2	15 7.93	2 38.659	− 2 55.53	+ 12.314
11	Weisse I, 382	19.2	31.0	43.5	6 36 31.23	2 33.399	+ 0 51.44	− 10.839
	Victoria	10.0	23.0	35.0	37 22.67	2 44.238		
	Weisse I, 382	42.2	54.5	7.0	38 54.57	2 33.312	+ 0 50.93	− 10.698
	Victoria	33.0	46.0	57.5	39 45.50	2 44.010		
	Weisse I, 382	21.5	34.2	46.5	41 34.07	2 33.301	+ 0 51.73	− 10.900
	Victoria	13.2	26.2	38.0	42 25.80	2 44.201		
	Weisse I, 382	19.4	31.5	44.0	44 31.63	2 33.381	+ 0 52.00	− 10.789
	Victoria	- -	23.7	36.0	45 23.63	2 44.170		
	Weisse I, 382	11.2	24.0	36.0	47 23.73	2 33.412	+ 0 51.94	− 10.628
	Victoria	3.0	16.0	28.0	48 15.67	2 44.040		
	Weisse I, 382	16.2	29.0	41.5	50 28.90	2 33.377	+ 0 52.03	− 10.661
	Victoria	8.3	21.0	33.5	51 20.93	2 44.038		
	Weisse I, 382	7.3	19.7	32.0	52 19.67	2 33.349	+ 0 52.76	− 10.400
	Victoria	0.0	12.3	25.0	53 12.43	2 43.749		
	Weisse I, 382	49.2	1.0	13.5	56 1.23	2 33.187	+ 0 52.60	− 10.623
	Victoria	42.0	53.5	6.0	56 53.83	2 43.810		
	Weisse I, 382	24.0	36.5	49.0	58 36.50	2 33.291	+ 0 53.00	− 10.469
	Victoria	17.0	29.5	42.0	59 29.50	2 43.760		
	Weisse I, 382	29.2	42.0	54.0	7 1 41.73	2 33.230	+ 0 53.77	− 10.432
	Victoria	23.0	- -	48.0	2 35.50	2 43.662		
	Weisse I, 382	30.5	43.0	53.2	6 42.90	2 33.121	+ 0 53.67	− 10.091
	Victoria	24.0	36.5	49.2	7 36.57	2 43.212		
	Weisse I, 382	47.2	0.0	12.5	9 59.90	2 33.101	+ 0 53.53	− 10.250
	Victoria	41.3	53.0	6.0	10 53.43	2 43.351		
	Weisse I, 382	0.3	12.5	25.1	13 12.63	2 33.260	+ 0 54.04	− 10.060
	Victoria	54.3	6.7	19.0	14 6.67	2 43.320		
12	Weisse I, 382	26.2	38.0	50.2	6 38 38.13	2 34.872	+ 2 30.10	+ 17.092
	Victoria	56.0	8.0	20.7	41 8.23	2 17.780		
	Weisse I, 382	54.4	6.9	- -	43 6.98	2 34.829	+ 2 30.65	+ 17.170
	Victoria	- -	- -	50.0	45 37.63	2 17.659		
	Weisse I, 382	9.5	22.0	35.1	47 22.20	2 34.960	+ 2 30.47	+ 17.273
	Victoria	40.0	53.0	5.0	49 52.67	2 17.687		
	Weisse I, 382	10.3	22.9	35.7	51 22.97	2 34.870	+ 2 31.11	+ 17.300
	Victoria	- -	54.0	6.0	53 54.08	2 17.570		
	Weisse I, 382	26.9	39.7	52.0	55 39.53	2 34.778	+ 2 31.70	+ 17.298
	Victoria	59.0	11.2	23.5	58 11.23	2 17.480		
	Weisse I, 382	28.0	40.0	52.9	59 40.30	2 34.712	+ 2 31.43	+ 17.383
	Victoria	59.0	12.2	24.0	7 2 11.73	2 17.329		

RESULTS.

Corr. Chron. + 0 m. 29.80 s.

	α	δ
Weisse I, 299,	h. m. s. 1 18 6.66	+ 9° 37′ 40″.44

Victoria—Weisse I, 299,

		Δα	Δδ
M. T.	h. m. s. 6 59 36.61	m. s. − 2 56.30	′ ″ + 3 5.32
	Δt	− .21	
	Δρ	.00	+ .08
	p	+ .12	+ 1.71

Corr. Chron. + 0 m. 31.97 s.

	α	δ
Weisse I, 382,	h. m. s. 1 22 25.90	+ 10° 19′ 1″.54

Victoria—Weisse I, 382,

		Δα	Δδ
M. T.	h. m. s. 6 55 5.98	m. s. + 0 52.57	′ ″ − 2 41.76
	Δt	+ .14	
	Δρ	.00	− .07
	p	+ .12	+ 1.65

Corr. Chron. + 0 m. 32.28 s.

	α	δ
Weisse I, 382,	h. m. s. 1 22 25.89	+ 10° 19′ 1″.46

Victoria—Weisse I, 382,

		Δα	Δδ
M. T.	h. m. s. 6 52 21.54	m. s. + 2 30.91	′ ″ + 4 25.18
	Δt	+ .40	
	Δρ	.00	+ .10
	p	+ .12	+ 1.64

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 16	Victoria	14.2	- -	39.0	6 43 26.60	3 39.692		
	Weisse I, 569	5.0	18.2	30.0	44 17.73	1 41.631	— 0 51.13	— 58.176
	Victoria	26.2	38.5	51.2	45 38.63	3 39.769		
	Weisse I, 569	16.5	28.7	41.0	46 28.73	1 41.652	— 0 50.10	— 58.232
	Victoria	53.5	- -	18.5	49 6.00	3 39.920		
	Weisse I, 569	- -	56.0	9.0	49 55.88	1 41.750	— 0 49.88	— 58.285
	Victoria	13.2	24.8	37.2	51 25.07	3 39.671		
	Weisse I, 569	2.5	15.0	28.0	52 15.17	1 41.482	— 0 50.10	— 58.304
	Victoria	35.2	48.1	0.0	53 47.77	3 39.729		
	Weisse I, 569	24.0	37.9	50.0	54 37.30	1 41.678	— 0 49.53	— 58.166
	Victoria	56.2	8.2	21.0	56 8.47	3 39.425		
	Weisse I, 569	45.6	58.0	11.0	56 58.20	1 41.698	— 0 49.73	— 57.842
	Victoria	40.0	52.8	5.0	59 52.60	3 39.389		
	Weisse I, 569	29.5	42.3	55.1	7 0 42.30	1 41.742	— 0 49.70	— 57.762
	Victoria	0.2	12.6	24.3	2 12.37	3 39.269		
	Weisse I, 569	49.1	1.3	14.0	3 1.47	1 41.740	— 0 49.10	— 57.644
	Victoria	3.5	15.2	27.3	5 15.33	3 39.388		
	Weisse I, 569	- -	4.0	16.9	6 3.88	1 41.658	— 0 48.55	— 57.845
	Victoria	4.2	16.2	29.1	8 16.50	3 38.959		
	Weisse I, 569	32.7	5.1	18.0	9 5.27	1 41.539	— 0 48.77	— 57.535
	Victoria	26.0	38.2	51.0	10 38.40	3 39.171		
	Weisse I, 569	- -	27.1	40.0	11 26.98	1 41.481	— 0 48.58	— 57.805
17	Weisse I, 569	25.0	37.5	50.2	6 42 37.57	1 42.079	+ 0 49.77	— 30.118
	Victoria	- -	27.2	40.0	43 27.34	2 42.018		
	Weisse I, 569	26.1	38.5	51.0	46 38.53	1 42.160	+ 0 49.14	— 29.848
	Victoria	15.0	28.0	40.0	47 27.67	2 41.829		
	Weisse I, 569	32.1	44.0	57.0	48 44.37	1 42.251	+ 0 49.90	— 29.803
	Victoria	21.8	34.0	47.0	49 34.27	2 41.875		
	Weisse I, 569	57.2	9.3	22.0	51 9.50	1 42.252	+ 0 49.87	— 29.637
	Victoria	47.0	59.1	12.0	51 59.37	2 41.710		
	Weisse I, 569	35.7	48.0	1.0	53 48.23	1 42.058	+ 0 49.91	— 29.819
	Victoria	- -	38.0	50.0	54 38.14	2 41.698		
	Weisse I, 569	2.7	15.0	28.0	56 15.23	1 42.111	+ 0 50.17	— 29.800
	Victoria	53.0	5.2	18.0	57 5.40	2 41.732		
	Weisse I, 569	22.0	34.0	46.7	58 34.23	1 42.128	+ 0 49.67	— 29.623
	Victoria	11.5	24.2	36.0	59 23.90	2 41.572		
	Weisse I, 569	19.3	31.7	45.0	7 1 32.00	1 41.950	+ 0 50.14	— 29.607
	Victoria	- -	22.0	35.0	2 22.14	2 41.378		
18	Weisse I, 569	26.2	39.0	51.2	30 38.80	2 34.391	+ 2 32.20	— 1.027
	Victoria	59.0	11.0	23.0	33 11.00	2 35.418		
	Weisse I, 569	46.2	59.0	11.5	36 58.90	2 34.248	+ 2 32.82	— 1.001
	Victoria	- -	32.0	44.0	39 31.72	2 35.249		
	Weisse I, 569	35.0	48.1	0.0	41 47.70	2 34.358	+ 2 33.13	— 0.703
	Victoria	8.5	21.0	33.0	44 20.83	2 35.061		
	Weisse I, 569	50.3	2.6	15.1	46 2.67	2 34.095	+ 2 33.88	— 0.857
	Victoria	24.1	- -	49.0	48 36.55	2 34.952		

RESULTS.

Corr. Chron. + 0 m. s. 35.44

	a	δ
	h. m. s.	° ′ ″
Weisse I, 569,	1 32 24.81	+11 7 15.33

Victoria—Weisse I, 569,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 57 28.87	— 0 49.56	—14 50.85
	Δt	— .13	
	Δϱ	— .01	— .41
	p	+ .12	+ 1.61

Corr. Chron. + 0 m. s. 35.60

	a	δ
	h. m. s.	° ′ ″
Weisse I, 569,	1 32 24.80	+11 7 15.27

Victoria—Weisse I, 569,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 53 50.38	+ 0 49.82	— 7 37.73
	Δt	+ .14	
	Δϱ	.00	— .21
	p	+ .12	+ 1.60

Corr. Chron. + 0 m. s. 36.49

	a	δ
	h. m. s.	° ′ ″
Weisse I, 569,	1 32 24.78	+11 7 15.20

Victoria—Weisse I, 569,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 42 1.74	+ 2 33.01	— 0 13.79
	Δt	+ .42	
	Δϱ	.00	— .01
	p	+ .14	+ 1.67

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 22	Weisse I, 740	29.2	41.7	54.2	6 47 41.70	2 53.077	+ 0 23.70	— 11.063
	Victoria	53.0	5.2	18.0	48 5.40	2 64.140		
	Weisse I, 740	46.1	58.3	12.0	49 58.80	2 53.112	+ 0 23.70	— 11.006
	Victoria	10.0	- -	35.0	50 22.50	2 64.118		
	Weisse I, 740	0.5	12.0	- -	53 12.05	2 53.176	+ 0 24.50	— 11.162
	Victoria	- -	36.5	49.2	53 36.55	2 64.338		
	Weisse I, 740	36.5	49.2	2.3	55 49.33	2 53.152	+ 0 24.00	— 10.823
	Victoria	1.0	13.2	25.8	56 13.33	2 63.975		
	Weisse I, 740	9.2	22.0	34.0	59 21.73	2 53.228	+ 0 24.77	— 10.872
	Victoria	34.0	46.5	59.0	59 46.50	2 64.100		
	Weisse I, 740	19.2	31.7	44.0	7 1 31.63	2 53.108	+ 0 24.84	— 10.950
	Victoria	44.0	56.2	9.2	1 56.47	2 64.058		
	Weisse I, 740	11.2	23.0	34.0	4 22.73	2 53.180	+ 0 24.84	— 10.972
	Victoria	35.0	47.7	0.0	4 47.57	2 64.152		
	Weisse I, 740	52.3	5.2	18.0	7 5.17	2 53.071	+ 0 24.50	— 10.891
	Victoria	17.0	29.5	42.5	7 29.67	2 63.962		
	Weisse I, 740	36.2	48.2	1.0	9 48.07	2 53.121	+ 0 25.56	— 10.628
	Victoria	1.2	13.5	26.2	10 13.63	2 63.749		
	Weisse I, 740	0.3	13.2	- -	12 13.25	2 53.233	+ 0 25.42	— 10.646
	Victoria	26.0	39.0	51.0	12 38.67	2 63.879		
	Weisse I, 740	24.3	36.8	- -	15 36.85	2 53.097	+ 0 25.72	— 10.590
	Victoria	50.0	2.7	15.0	16 2.57	2 63.687		
	Weisse I, 740	33.2	45.2	- -	17 45.25	2 53.151	+ 0 26.25	— 10.480
	Victoria	59.0	11.2	24.3	18 11.50	2 63.631		
	Weisse I, 740	1.2	13.2	- -	20 13.25	2 53.142	+ 0 25.92	— 10.527
	Victoria	27.0	39.0	51.5	20 39.17	2 63.669		
	Weisse I, 740	32.5	45.4	- -	22 45.42	2 52.973	+ 0 26.15	— 10.587
	Victoria	59.0	11.5	24.2	23 11.57	2 63.560		
	Weisse I, 740	47.5	- -	12.0	24 59.75	2 53.031	+ 0 26.85	— 10.507
	Victoria	14.0	- -	39.2	25 26.60	2 63.538		
	Weisse I, 740	35.0	47.2	59.0	25 47.07	2 53.000	+ 0 26.43	— 10.668
	Victoria	1.0	- -	26.0	26 13.50	2 63.668		
25	Victoria	58.2	11.2	23.2	6 57 10.87	1 35.233		
	Weisse I, 855	56.0	9.0	21.0	58 8.67	2 33.891	— 0 57.80	+ 28.837
	Victoria	20.5	33.2	45.2	7 3 32.97	1 35.228		
	Weisse I, 855	17.9	30.0	43.5	4 30.47	2 33.772	— 0 57.50	+ 28.723
	Victoria	34.2	47.0	59.0	5 46.73	1 35.078		
	Weisse I, 855	31.2	44.0	57.0	6 44.07	2 33.745	— 0 57.34	+ 28.846
	Victoria	36.2	49.2	1.0	7 48.80	1 35.051		
	Weisse I, 855	33.2	46.6	58.5	8 46.10	2 33.869	— 0 57.30	+ 28.997
	Victoria	39.2	51.0	4.0	10 51.40	1 35.060		
	Weisse I, 855	36.0	48.0	1.0	11 48.33	2 33.810	— 0 56.93	+ 28.929
	Victoria	4.2	17.0	29.0	13 16.73	1 35.165		
	Weisse I, 855	1.0	13.5	26.2	14 13.57	2 33.881	— 0 56.84	+ 28.895
	Victoria	20.1	33.2	45.0	15 32.80	1 34.912		
	Weisse I, 855	17.0	29.2	42.0	16 29.40	2 33.709	— 0 56.60	+ 28.976

RESULTS.

Corr. Chron. + 0 m. s. 36.41

	α	δ
	h. m. s.	° ′ ″
Weisse I, 740,	1 41 12.76	+11 38 40.76

Victoria—Weisse I, 740,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 9 2.36	+ 0 25.20	— 2 45.53
		Δt + .07	
		Δϱ — .00	— .08
		p + .13	+ 1.58

Corr. Chron. + 0 m. s. 38.62

	α	δ
	h. m. s.	° ′ ″
Weisse I, 855,	1 47 39.60	+11 50 17.82

Victoria—Weisse I, 855,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 22 0.00	+ 0 56.21	+ 7 27.49
		Δt + .15	
		Δϱ + .01	+ .25
		p + .14	+ 1.58

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 25	Victoria	28.0	40.5	53.0	7 50 40.50	1 48.111		
	Weisse I, 855	22.0	35.0	47.0	51 34.67	2 47.595	− 0 54.17	+ 29.563
	Victoria	5.0	18.0	30.5	54 17.83	1 48.160		
	Weisse I, 855	59.0	12.2	24.7	55 11.63	2 47.685	− 0 53.80	+ 29.704
	Victoria	22.5	35.0	48.0	57 35.17	1 47.737		
	Weisse I, 855	16.0	29.0	42.0	58 29.00	2 47.239	− 0 53.83	+ 29.681
Mar. 1	Weisse I, 943	49.7	2.2	15.0	7 20 2.30	1 41.630	+ 0 44.27	− 49.413
	Victoria	34.0	46.5	59.2	20 46.57	3 30.928		
	Weisse I, 943	17.4	30.2	42.9	23 30.16	1 41.475	+ 0 43.79	− 49.569
	Victoria	1.7	..	26.2	24 13.95	3 30.929		
	Weisse I, 943	36.2	48.5	01.0	26 48.57	1 41.508	+ 0 44.33	− 49.464
	Victoria	20.7	33.0	45.0	27 32.90	3 30.857		
	Weisse I, 943	8.3	20.5	33.7	29 20.83	1 41.525	+ 0 44.87	− 49.448
	Victoria	53.1	6.0	18.0	30 5.70	3 30.858		
	Weisse I, 943	40.6	53.2	6.1	31 53.30	1 41.440	+ 0 45.07	− 49.344
	Victoria	26.1	38.1	50.9	32 38.37	3 30.669		
	Weisse I, 943	3.2	15.0	28.0	34 15.40	1 41.390	+ 0 45.27	− 49.345
	Victoria	47.9	1.1	13.0	35 0.67	3 30.620		
	Weisse I, 943	41.2	53.2	6.0	36 53.47	1 41.288	+ 0 45.03	− 49.279
	Victoria	26.0	38.5	51.0	37 38.50	3 30.452		
	Weisse I, 943	23.2	36.0	48.7	40 35.97	1 41.220	+ 0 45.33	− 49.256
	Victoria	8.7	21.2	34.0	41 21.30	3 30.361		
	Weisse I, 943	53.2	6.0	19.0	43 6.07	1 41.222	+ 0 45.53	− 49.285
	Victoria	39.0	51.8	4.0	43 51.60	3 30.392		
	Weisse I, 943	0.9	13.8	26.2	45 13.63	1 41.179	+ 0 45.50	− 49.165
	Victoria	47.0	59.2	11.2	45 59.13	3 30.229		
2	Weisse I, 943	50.6	3.0	16.0	6 56 3.20	2 38.732	+ 2 24.47	− 21.983
	Weisse I, 973	35.0	48.0	1.2	57 48.07	1 46.630	+ 0 39.60	− 44.264
	Victoria	15.0	28.0	40.0	58 27.67	3 30.779		
	Weisse I, 943	53.2	5.7	18.0	7 1 5.63	2 38.669	+ 2 24.97	− 21.745
	Weisse I, 973	37.7	51.0	3.7	2 50.80	1 46.678	+ 0 39.80	− 43.915
	Victoria	18.1	30.7	43.0	3 30.60	3 30.478		
	Weisse I, 943	12.0	24.8	38.0	5 24.93	2 38.699	+ 2 25.40	− 21.952
	Weisse I, 973	57.0	10.0	22.7	7 9.90	1 46.680	+ 0 40.43	− 44.253
	Victoria	38.0	50.0	3.0	7 50.33	3 30.718		
	Weisse I, 943	51.7	3.9	17.2	10 4.27	2 38.785	+ 2 25.64	− 21.986
	Weisse I, 973	36.9	48.8	2.0	11 49.23	1 46.679	+ 0 40.68	− 44.271
	Victoria	17.0	29.8	..	12 29.91	3 30.835		
	Weisse I, 973	29.2	41.9	54.4	21 41.83	1 46.475	+ 0 41.50	− 43.820
	Victoria	11.0	23.0	36.0	22 23.33	3 30.180		
	Weisse I, 973	41.7	54.2	6.2	23 54.03	1 46.461	+ 0 41.60	− 43.874
	Victoria	23.2	35.7	48.0	24 35.63	3 30.220		
	Weisse I, 973	49.1	2.0	14.2	26 1.77	1 46.380	+ 0 41.96	− 43.886
	Victoria	31.2	44.0	56.0	26 43.73	3 30.151		
	Weisse I, 973	38.9	51.9	4.2	27 51.67	1 46.430	+ 0 41.73	− 43.659
	Victoria	21.0	33.0	46.2	28 33.40	3 29.974		

RESULTS.

Mar. 1, 943:

Corr. Chron. + 0 m. s. 38.87

	α h. m. s.	δ ° ′ ″
Weisse I, 943,	1 52 47.55	+12 39 30.02

Victoria—Weisse I, 943,

		Δα m. s.	Δδ ′ ″
M. T. 7 34 33.75		− 0 44.90	−12 38.60
	Δt	− .12	
	Δρ	− .02	− .49
	p	+ .14	+ 1.57

2, 943, 973:

Corr. Chron. + 0 m. s. 39.70

	α h. m. s.	δ ° ′ ″
Weisse I, 943,	1 52 47.53	+12 39 29.93
Weisse I, 973,	1 54 33.08	12 45 12.88

Victoria—Weisse I, 943,

		Δα m. s.	Δδ ′ ″
M. T. 7 6 14.33		+ 2 25.12	− 5 36.86
	Δt	+ .40	
	Δρ	− .01	− .18
	p	+ .13	+ 1.52

Victoria—Weisse I, 973,

		Δα m. s.	Δδ ′ ″
M. T. 7 22 34.20		+ 0 41.31	+11 12.79
	Δt	+ .11	
	Δρ	− .00	− .40
	p	+ .14	+ 1.55

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
March 2	Weisse I, 973	35.2	48.1	1.0	7 30 48.10	1 46.380	+ 0 41.87	— 43.674
	Victoria	18.0	29.7	42.2	31 29.97	3 29.939		
	Weisse I, 973	33.7	46.0	59.1	32 46.26	1 46.337	+ 0 42.07	— 43.647
	Victoria	16.0	28.0	41.0	33 28.33	3 29.869		
	Weisse I, 973	41.2	53.5	5.9	34 53.53	1 46.290	+ 0 42.04	— 43.474
	Victoria	23.0	35.1	48.0	35 35.57	3 29.649		
	Weisse I, 973	49.5	2.5	14.5	36 2.17	1 46.302	+ 0 42.40	— 43.552
	Victoria	32.0	44.7	57.0	37 44.57	3 29.739		
3	Weisse I, 973	54.2	7.2	19.5	7 1 6.97	2 38.364	+ 2 22.53	— 16.214
	Victoria	17.0	- -	42.0	3 29.50	2 54.578		
	Weisse I, 973	4.3	17.3	29.7	10 17.10	2 39.378	+ 2 22.90	— 15.781
	Victoria	28.0	40.0	52.0	12 40.00	2 55.159		
	Weisse I, 973	49.2	2.5	14.9	15 2.20	2 39.387	+ 2 23.97	— 15.802
	Victoria	13.5	26.0	39.0	17 26.17	2 55.189		
	Weisse I, 973	41.5	54.1	6.8	19 54.13	2 39.332	+ 2 23.70	— 15.538
	Victoria	5.0	18.0	30.5	22 17.83	2 54.870		
	Weisse I, 973	56.2	8.7	21.3	25 8.73	2 39.305	+ 2 24.34	— 15.580
	Victoria	20.7	33.0	45.5	27 33.07	2 54.885		
	Weisse I, 973	16.2	29.2	42.0	34 29.13	2 38.980	+ 2 24.47	— 15.509
	Victoria	41.2	53.6	6.0	36 53.60	2 54.489		
	Weisse I, 1042	9.0	21.0	34.0	38 21.33	2 40.843		
4	Weisse I, 1042	19.2	32.0	- -	7 14 31.75	2 43.331	+ 0 12.98	+ 14.812
	Victoria	32.0	45.0	57.2	14 44.73	2 28.519		
	Weisse I, 1042	37.1	- -	1.9	17 49.50	2 43.431	+ 0 13.50	+ 15.051
	Victoria	50.0	- -	16.0	18 3.00	2 28.380		
	Weisse I, 1042	47.2	-	12.0	19 59.60	2 43.310	+ 0 13.40	+ 15.010
	Victoria	0.0	- -	26.0	20 13.00	2 28.300		
	Weisse I, 1042	49.2	- -	14.2	23 1.70	2 42.187	+ 0 13.80	+ 14.005
	Victoria	3.0	- -	28.0	23 15.50	2 28.182		
	Weisse I, 1042	44.2	- -	9.2	25 56.70	2 42.092	+ 0 14.25	+ 13.917
	Victoria	- -	11.2	23.0	26 10.95	2 28.175		
	Weisse I, 1042	47.2	- -	- -	28 59.83	2 42.193	+ 0 13.77	+ 14.121
	Victoria	1.0	- -	26.2	29 13.60	2 28.072		
	Weisse I, 1042	12.2	- -	37.0	31 24.60	2 42.451	+ 0 14.13	+ 14.356
	Victoria	26.2	39.0	51.0	31 38.73	2 28.095		
	Weisse I, 1042	42.2	- -	7.0	34 54.60	2 42.112	+ 0 14.65	+ 14.251
	Victoria	- -	9.5	21.2	35 9.25	2 27.861		
	Weisse I, 1042	42.0	-	7.2	39 54.60	2 41.989	+ 0 14.90	+ 14.260
	Victoria	57.0	- -	22.0	40 9.50	2 27.729		
	Weisse I, 1042	29.2	41.0	54.0	42 41.40	2 42.072	+ 0 14.67	+ 14.328
	Victoria	43.0	56.2	9.0	42 56.07	2 27.744		
	Weisse I, 1042	10.5	23.0	36.0	46 23.17	2 41.871	+ 0 15.50	+ 14.273
	Victoria	26.0	39.0	51.0	46 38.67	2 27.598		
	Weisse I, 1042	19.2	- -	44.2	48 31.70	2 41.989	+ 0 15.15	+ 14.527
	Victoria	- -	47.1	59.1	48 46.85	2 27.462		

RESULTS.

Corr. Chron. + 0 m. s. 39.66

	α	δ
Weisse I, 973,	h. m. s. 1 54 33.07	° ′ ″ +12 45 12.82

Victoria—Weisse I, 973,

		Δα	Δδ
M. T.	h. m. s. 7 20 43.02	m. s. + 2 23.65	′ ″ — 4 1.85
	Δt	+ .39	
	Δϱ	— .01	— .15
	p	+ .14	+ 1.55

Corr. Chron. + 0 m. s. 40.55

	α	δ
Weisse I, 1042,	h. m. s. 1 58 26.53	° ′ ″ +12 44 46.59

Victoria—Weisse I, 1042,

		Δα	Δδ
M. T.	h. m. s. 7 32 5.54	m. s. + 0 14.41	′ ″ + 3 41.45
	Δt	+ .04	
	Δϱ	+ .01	+ .15
	p	+ .14	+ 1.56

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 10	Victoria	29.0	40.9	54.0	6 56 41.30	3 35.239		
	Weisse II, 143	24.2	37.0	50.0	57 37.07	1 35.770	— 0 55.77	— 59.584
	Victoria	10.2	22.0	35.0	7 0 22.40	3 35.212		
	Weisse II, 143	5.3	18.2	31.0	1 18.17	1 35.665	— 0 55.77	— 59.662
	Victoria	19.7	33.0	45.2	2 32.63	3 34.978		
	Weisse II, 143	15.2	28.3	40.9	3 28.13	1 35.590	— 0 55.50	— 59.503
	Victoria	28.1	40.0	53.0	4 40.37	3 35.018		
	Weisse II, 143	23.2	36.0	48.0	5 35.73	1 35.582	— 0 55.36	— 59.551
	Victoria	36.0	48.5	1.2	6 48.57	3 34.836		
	Weisse II, 143	31.2	44.1	57.0	7 44.10	1 35.525	— 0 55.53	— 59.426
	Victoria	34.2	47.1	59.5	8 46.93	3 34.982		
	Weisse II, 143	29.7	42.3	54.7	9 42.23	1 35.530	— 0 55.30	— 59.567
	Victoria	15.4	28.0	41.0	11 28.13	3 34.741		
	Weisse II, 143	10.3	23.1	36.0	12 23.13	1 35.519	— 0 55.00	— 59.337
	Victoria	15.2	27.0	40.0	13 27.40	3 34.930		
	Weisse II, 143	9.5	22.7	35.0	14 22.40	1 35.510	— 0 55.00	— 59.535
	Victoria	34.2	47.2	59.0	15 46.80	3 34.652		
	Weisse II, 143	29.1	42.0	54.0	16 41.37	1 35.369	— 0 54.57	— 59.398
	Victoria	51.0	3.3	16.2	18 3.50	3 34.605		
	Weisse II, 143	45.2	58.2	11.0	18 58.13	1 35.449	— 0 54.63	— 59.271
	Victoria	3.2	..	28.3	20 15.75	3 34.540		
	Weisse II, 143	..	9.5	22.9	21 9.43	1 35.325	— 0 53.68	— 59.330
	Victoria	34.7	46.9	0.0	22 47.20	3 34.510		
	Weisse II, 143	28.9	41.7	54.2	23 41.60	1 35.344	— 0 54.40	— 59.281
11	Weisse II, 143	6.2	18.7	32.0	7 5 18.97	1 52.818	+ 0 49.43	— 31.756
	Victoria	55.0	7.2	20.0	6 7.40	2 54.395		
	Weisse II, 143	59.2	11.9	24.8	9 11.97	1 52.764	+ 0 48.60	— 32.205
	Victoria	48.0	0.7	13.0	10 0.57	2 54.790		
	Weisse II, 143	11.2	23.7	36.0	11 23.63	1 52.633	+ 0 48.34	— 31.908
	Victoria	59.2	12.0	24.7	12 11.97	2 54.362		
	Weisse II, 143	12.7	..	38.0	14 25.35	1 52.686	+ 0 49.05	— 31.945
	Victoria	2.0	14.2	27.0	15 14.40	2 54.452		
	Weisse II, 134	43.2	56.0	9.0	16 56.07	1 53.316		
	Weisse II, 143	29.7	42.9	55.2	17 42.60	1 52.612	+ 0 49.40	— 31.792
	Victoria	19.0	32.0	45.0	18 32.00	2 54.225		
	Weisse II, 143	47.2	0.2	13.0	21 0.13	1 52.626	+ 0 49.27	— 31.715
	Victoria	37.0	49.2	2.0	21 49.40	2 54.162		
	Weisse II, 143	14.1	27.0	39.2	22 26.77	1 52.531	+ 0 49.63	— 31.938
	Victoria	4.0	16.2	29.0	23 16.40	2 54.290		
	Weisse II, 143	35.3	48.0	1.2	25 48.17	1 52.500	+ 0 49.78	— 31.799
	Victoria	25.2	..	50.7	26 37.95	2 54.120		
13	Weisse II, 182	14.1	26.3	39.2	7 0 26.53	3 45.527	+ 2 07.47	+ 61.354
	Victoria	21.0	34.0	47.0	2 34.00	1 44.288		

RESULTS.

Mar. 10: Corr. Chron. m. s. + 0 44.06

	α h. m. s.	δ ° ′ ″
Weisse II, 143,	2 9 57.40	+13 46 23.36

Victoria—Weisse II, 143,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 11 48.35	— 0 55.04	—15 13.79
	Δt	— .15	
	Δρ	— .02	— .55
	p	+ .14	+ .49

11: Corr. Chron. h. s. + 0 44.13

	α h. m. s.	δ ° ′ ″
Weisse II, 143,	2 9 57.40	+13 46 23.31

Victoria—Weisse II, 143,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 17 27 87	+ 0 49.19	— 8 10.01
	Δt	+ .13	
	Δρ	— .01	— .32
	p	+ .14	+ 1.50

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 13	Weisse II, 182	56.5	8.9	21.9	7 3 9.10	3 45.392	+ 2 7.67	+ 61.022
	Victoria	- -	16.7	29.0	6 16.77	1 44.485		
	Weisse II, 182	24.1	36.0	48.7	7 36.27	3 45.407	+ 2 7.50	+ 61.321
	Victoria	- -	43.7	56.0	9 43.77	1 44.201		
	Weisse II, 182	16.8	29.3	42.0	11 29.37	3 45.269	+ 2 8.80	+ 61.079
	Victoria	- -	38.1	50.0	13 38.17	1 44.305		
	Weisse II, 182	39.1	51.7	4.0	15 51.60	3 45.257	+ 2 7.97	+ 61.284
	Victoria	47.0	59.7	2.0	17 59.57	1 44.088		
	Weisse II, 182	19.4	32.5	45.1	19 32.33	3 45.179	+ 2 8.87	+ 61.452
	Victoria	28.6	41.0	54.0	21 41.20	1 43.842		
21	Victoria	4.0	- -	- -	7 35 16.50	1 38.850		
	Weisse II, 479	19.0	- -	44.0	35 31.50	3 40.682	— 0 15.00	+ 61.947
	Victoria	39.7	- -	5.0	52 52.35	1 37.490		
	Weisse II, 479	53.0	- -	18.7	53 5.85	3 39.542	— 0 13.50	+ 62.167
	Victoria	44.2	- -	- -	56 56.70	1 37.342		
	Weisse II, 479	57.1	- -	22.0	57 9.55	3 39.282	— 0 12.85	+ 62.055
	Victoria	20.0	- -	45.0	8 4 32.50	1 36.418		
	Weisse II, 479	32.0	- -	57.0	4 44.50	3 38.821	— 0 12.00	+ 62.518
25	Weisse II, 569	14.3	27.3	40.2	7 12 27.27	1 47.129	+ 2 16.73	— 37.098
	Victoria	31.0	44.0	57.0	14 44.00	2 54.048		
	Weisse II, 569	14.6	27.2	39.7	16 27.17	1 47.098	+ 2 17.00	— 37.381
	Victoria	31.5	44.0	57.0	18 44.17	2 54.300		
	Weisse II, 569	37.2	49.7	2.3	20 49.73	1 46.773	+ 2 16.67	— 37.554
	Victoria	54.1	6.0	19.1	23 6.40	2 54.148		
	Weisse II, 569	55.1	7.2	20.0	24 7.43	1 46.621	+ 2 17.57	— 37.284
	Victoria	12.5	25.0	37.5	27 25.00	2 53.726		

RESULTS.

Mar. 13 — Corr. Chron. + 0 m. s. 45.93

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 182,	2 12 6.26	+13 36 30.95

Victoria—Weisse II, 182,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 12 44.84	+ 2 8.05	+15 41.41
	Δt	+ .35	
	Δϱ	+ .02	+ .61
	p	+ .14	+ 1.49

21 — Corr. Chron. + 0 m. s. 46.46

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 479,	2 28 30.15	+14 31 33.40

Victoria—Weisse II, 479,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 53 10.97	— 0 13.34	+15 55.55
	Δt	— .04	
	Δϱ	+ .08	+ 1.25
	p	+ .14	+ 1.56

25 — Corr. Chron. + 0 m. s. 46.65

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 569,	2 33 4.68	+15 23 45.23

Victoria—Weisse II, 569,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 21 46.54	+ 2 16.99	— 9 33.74
	Δt	+ .38	
	Δϱ	— .03	— .51
	p	+ .14	+ 1.48

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Jan. 1	Weisse I, 646	22.2	35.0	48.0	6 8 35.07	2 34.890	+ 0 29.26	+ 8.611
	Egeria	52.0	4.0	17.0	9 4.33	2 26.279		
	Weisse I, 646	51.5	4.0	16.0	19 3 83	2 34.822	+ 0 29.74	+ 8.684
	Egeria	21.0	33.5	46.2	19 33.57	2 26.138		
	Weisse I, 646	51.7	4.0	17.2	24 4.30	2 34.562	+ 0 29.63	+ 8.897
	Egeria	21.0	34.0	46.8	24 33.93	2 25.665		
	Weisse I, 646	0.0	13.0	25.0	28 12.67	2 34.577	+ 0 29.33	+ 8.912
	Egeria	- -	42.0	55.0	28 42.00	2 25.665		
	Weisse I, 646	7.0	19.0	32.0	34 19.33	2 34.395	+ 0 30.00	+ 8.745
	Egeria	37.0	49.0	2.0	34 49.33	2 25.650		
	Weisse I, 646	24.0	36.2	49.0	39 36.40	2 34.622	+ 0 30.00	+ 9.312
	Egeria	54.2	6.3	18.7	40 6.40	2 25.310		
	Weisse I, 646	21.2	33.5	46.0	41 33.56	2 34.576	+ 0 30.11	+ 9.277
	Egeria	51.0	3.7	16.3	42 3.67	2 25.299		
	Weisse I, 646	12.2	25.3	38.0	45 25.17	2 34.572	+ 0 30.23	+ 9.267
	Egeria	43.2	55.0	8.0	45 55.40	2 25.305		
	Weisse I, 646	47.2	0.2	12.2	48 59.87	2 34.441	+ 0 30.36	+ 9.266
	Egeria	17.5	30.2	43.0	49 30.23	2 25.175		
	Weisse I, 646	15.2	28.3	41.0	52 28.17	2 34.584	+ 0 30.33	+ 9.406
	Egeria	46.0	58.2	11.3	52 58.50	2 25.178		
	Weisse I, 646	8.2	20.3	33.3	56 20.60	2 34.387	+ 0 30.13	+ 9.248
	Egeria	38.0	50.7	3.5	56 50.73	2 25.139		
	Weisse I, 646	51.3	4.3	16.8	59 4.13	2 34.452	+ 0 30.44	+ 9.467
	Egeria	22.2	34.5	47.0	59 34.57	2 24.985		
	Weisse I, 646	54.2	7.0	20.0	7 3 7.07	2 34.552	+ 0 29.93	+ 9.752
	Egeria	- -	37.0	50.0	3 37.00	2 24.800		
	Weisse I, 646	58.3	11.2	23.5	7 11.00	2 34.352	+ 0 30.00	+ 9.532
	Egeria	29.0	41.0	54.0	7 41.00	2 24.820		
	Weisse I, 646	35.3	48.2	0.9	9 48.13	2 34.479	+ 0 30.54	+ 9.817
	Egeria	6.0	18.7	31.3	10 18.67	2 24.662		
7	Egeria	22.0	34.0	47.0	6 5 34.33	3 53.479		
	Weisse I, 732	23.0	36.0	48.5	7 35.83	1 32.542	— 2 1.50	— 81.026
	Egeria	53.0	5.0	18.1	10 5.37	3 53.120		
	Weisse I, 732	- -	5.9	18.5	12 5.09	1 32.820	— 1 59.72	— 80.389
	Egeria	2.2	14.1	27.3	15 14.53	3 53.078		
	Weisse I, 732	- -	15.0	28.0	17 15.00	1 32.668	— 2 0.47	— 80.499
	Egeria	9.2	21.0	33.5	21 21.23	3 52.836		
	Weisse I, 732	8.3	21.0	34.0	23 21.10	1 32.680	— 1 59.87	— 80.245
	Egeria	16.2	28.1	40.3	27 28.20	3 52.652		
	Weisse I, 732	16.0	28.3	41.2	29 28.50	1 32.789	— 2 0.30	— 79.952
	Egeria	3.8	16.0	28.2	32 16.00	3 52.535		
	Weisse I, 732	4.0	16.1	29.0	34 16.37	1 32.689	— 2 0.37	— 79.935
	Egeria	35.5	- -	1.0	37 48.25	3 52.335		
	Weisse I, 732	35.2	48.3	1.0	39 48.17	1 32.742	— 1 59.92	— 79.682
	Egeria	56.2	8.4	21.0	42 8.53	3 52.305		
	Weisse I, 732	55.5	8.7	21.2	44 8.47	1 32.706	— 1 59.94	— 79.688

RESULTS.

Corr. Chron. + 0 m. s. 11.86

	α	δ
	h. m. s.	° ′ ″
Weisse I, 646,	1 35 17.36	+12 12 7.18

Egeria—Weisse I, 646,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	6 44 33.15	+ 0 30.00	+ 2 21.58
		Δt + .08	
		Δρ + .01	+ .05
		p — .01	+ 1.88

Corr. Chron. + 0 m. s. 13.57

	α	δ
	h. m. s.	° ′ ″
Weisse I, 732,	1 40 37.70	+13 19 6.28

Egeria—Weisse I, 732,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	6 34 7.68	— 2 0.10	+20 28.88
		Δt — .33	
		Δρ .00	+ .42
		p .00	+ 1.72

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ Mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 7	Egeria	15.1	27.3	39.0	6 46 27.13	3 52.240		
	Weisse I, 732	15.3	27.2	40.0	48 27.50	1 32.626	− 2 0.37	− 79.703
	Egeria	32.0	- -	57.0	50 44.50	3 52.020		
	Weisse I, 732	31.9	45.0	57.0	52 44.63	1 32.702	− 2 0.13	− 79.407
	Egeria	42.0	54.0	6.0	55 54.00	3 51.928		
	Weisse I, 732	- -	53.0	6.0	57 53.00	1 32.578	− 1 59.00	− 79.439
	Egeria	35.0	- -	59.5	7 1 47.25	3 51.672		
	Weisse I, 732	34.7	46.8	59.0	3 46.83	1 32.270	− 1 59.58	− 79.491
11	Weisse I, 732	10.3	22.9	35.0	6 14 22.73	3 40.839	+ 0 21.27	+ 40.147
	Egeria	- -	44.0	- -	14 44.00	2 30.562		
	Weisse I, 732	32.2	45.0		19 45.00	3 40.769	+ 0 21.73	+ 40.227
	Egeria	54.0	7.0	19.2	20 6.73	2 30.412		
	Weisse I, 732	24.8	37.0	- -	21 37.00	3 40.821	+ 0 21.00	+ 40.459
	Egeria	- -	58.0	11.2	21 58.00	2 30.232		
	Weisse I, 732	43.7	56.0	9.0	23 56.23	3 40.859	+ 0 21.57	+ 40.437
	Egeria	5.0	17.9	30.5	24 17.80	2 30.292		
	Weisse I, 732	5.2	17.5	30.0	26 17.57	3 40.802	+ 0 21.43	+ 40.374
	Egeria	26.0	- -	52.0	26 39.00	2 30.298		
	Weisse I, 732	49.2	2.0	- -	29 2.00	3 40.739	+ 0 21.87	+ 40.368
	Egeria	11.2	24.2	36.2	29 23.87	2 30.241		
	Weisse I, 732	17.2	29.1	- -	32 29.10	3 40.688	+ 0 21.73	+ 40.468
	Egeria	38.0	51.0	3.5	32 50.83	2 30.090		
12	Weisse I, 732	44.2	57.2	10.0	5 48 57.07	3 47.599	+ 0 58.93	+ 70.339
	Egeria	43.0	56.0	9.0	49 56.00	1 37.349		
	Weisse I, 732	48.5	1.2	14.6	52 1.43	3 47.450	+ 0 59.24	+ 70.447
	Egeria	48.0	1.0	13.0	53 0.67	1 37.092		
	Weisse I, 732	25.2	38.0	51.7	54 38.30	3 47.479	+ 0 58.57	+ 70.500
	Egeria	24.1	37.0	49.5	55 36.87	1 37.068		
	Weisse I, 732	19.7	32.5	45.1	57 32.43	3 47.358	+ 0 59.57	+ 70.527
	Egeria	19.0	32.0	45.0	58 32.00	1 36.920		
	Weisse I, 732	12.5	25.0	38.1	6 0 25.20	3 47.489	+ 0 59.63	+ 70.626
	Egeria	12.5	25.0	37.0	1 24.83	1 36.952		
	Weisse I, 732	34.2	47.1	59.7	3 47.00	3 47.492	+ 0 59.60	+ 70.712
	Egeria	34.0	46.8	59.0	4 46.60	1 36.869		
	Weisse I, 732	55.1	7.5	20.0	9 7.53	3 47.446	+ 0 59.30	+ 70.865
	Egeria	54.3	7.2	19.0	10 6.83	1 36.670		
	Weisse I, 732	33.0	45.8	58.2	14 45.67	3 47.348	+ 1 0.06	+ 70.930
	Egeria	33.2	46.0	58.0	15 45.73	1 36.507		
	Weisse I, 732	19.5	32.5	45.1	17 32.37	3 47.369	+ 1 0.43	+ 71.149
	Egeria	19.7	33.0	45.7	18 32.80	1 36.309		
	Weisse I, 732	6.2	19.2	31.7	20 19.03	3 47.360	+ 1 0.14	+ 71.130
	Egeria	6.5	19.0	32.0	21 19.17	1 36.319		
	Weisse I, 732	26.5	38.7	51.0	23 38.73	3 45.360	+ 1 0.60	+ 71.084
	Egeria	27.0	39.0	52.0	24 39.33	1 34.365		

RESULTS.

Corr. Chron. + 0 m. s. 13.82

	α	δ
Weisse I, 732,	h. m. s. 1 40 37.63	° ′ ″ +13 19 6.04

Egeria—Weisse I, 732,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	6 24 31.00	+ 0 21.51	+10 20.22
		Δt + .06	
		Δϱ .00	+ .21
		p + .01	+ 1.71

Corr. Chron. + 0 m. s. 13.90

	α	δ
Weisse I, 732,	h. m. s. 1 40 37.61	° ′ ″ +13 19 5.98

Egeria—Weisse I, 732,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	6 10 50.75	− 0 59.74	+18 8.54
		Δt − .16	
		Δϱ .00	+ .37
		p .00	+ 1.68

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	Mie.	PLANET—STAR. Δ α	Δ mie.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 12	Weisse I, 732 - -	5.1	17.6	30.0	6 29 17.57	1 45.359	+ 1 0.43	+ 71.120	
	Egeria - - - -	5.0	18.0	31.0	30 18.00	1 34.328			
	Weisse I, 732 - -	47.2	0.0	13.0	33 0.06	3 45.112	+ 1 0.17	+ 71.276	
	Egeria - - - -	47.5	0.2	13.0	34 0.23	1 33.925			
13	(* 1) W. - - - -	31.0	- -	56.0	6 8 43.50	3 38.021	+ 0 12.83	+ 34.645	m. s. Corr. Chron. + 0 14.01
	Egeria - - - -	44.0	56.0	9.0	8 56.33	2 33.245			α δ
	(* 1) W. - - - -	34.7	- -	59.7	10 47.20	3 38.005	+ 0 12.43	+ 34.884	h. m. s. ° ′ ″
	Egeria - - - -	47.2	- -	12.0	10 59.60	3 32.991			(* 1) W., 1 42 4.86 +13 40 19.19
	(* 1) W. - - - -	47.3	- -	12.2	13 59.75	3 37.992	+ 0 12.35	+ 35.061	Egeria—(* 1) W.,
	Egeria - - - -	59.2	- -	25.0	14 12.10	2 32.801			△α △δ
	(* 1) W. - - - -	59.7	- -	25.0	15 12.35	3 38.010	+ 0 12.90	+ 34.919	h. m. s. m. s. ′ ″
	Egeria - - - -	12.5	- -	38.0	15 25.25	2 32.961			M. T. 6 24 13.81 + 0 13.04 + 8 59.49
	(* 1) W. - - - -	55.3	- -	20.8	17 8.05	3 37.928	+ 0 12.55	+ 34.886	Δt + .04
	Egeria - - - -	8.0	- -	33.2	17 20.60	2 32.912			Δϱ .00 + .18
	(* 1) W. - - - -	57.0	- -	22.7	19 9.85	3 37.890	+ 0 12.45	+ 34.919	p + .01 + 1.66
	Egeria - - - -	9.5	- -	35.1	19 22.30	2 32.841			
	(* 1) W. - - - -	14.2	- -	39.7	21 26.95	3 37.940	+ 0 13.25	+ 35.127	
	Egeria - - - -	27.4	- -	53.0	21 40.20	2 32.683			
	(* 1) W. - - - -	17.5	- -	42.7	23 30.10	3 37.817	+ 0 13.25	+ 35.049	
	Egeria - - - -	30.7	- -	56.0	23 43.35	2 32.638			
	(* 1) W. - - - -	24.1	- -	49.3	25 36.70	3 37.922	+ 0 13.25	+ 35.167	
	Egeria - - - -	37.2	- -	2.7	25 49.95	2 32.625			
	(* 1) W. - - - -	37.2	- -	3.2	27 50.20	3 37.833	+ 0 13.30	+ 34.963	
	Egeria - - - -	51.0	- -	16.0	28 3.50	2 32.740			
	(* 1) W. - - - -	37.8	- -	3.0	29 50.40	3 37.950	+ 0 13.20	+ 35.255	
	Egeria - - - -	51.0	- -	16.2	30 3.60	2 32.565			
	(* 1) W. - - - -	22.0	- -	47.5	31 34.75	3 37.952	+ 0 13.55	+ 35.331	
	Egeria - - - -	35.4	- -	1.2	31 48.30	2 32.491			
	(* 1) W. - - - -	19.2	- -	45.0	33 32.10	3 37.928	+ 0 13.40	+ 35.470	
	Egeria - - - -	33.0	- -	58.0	33 45.50	2 32.328			
	(* 1) W. - - - -	44.1	- -	9.7	37 56.90	3 37.882	+ 0 13.60	+ 35.365	
	Egeria - - - -	58.0	- -	23.0	38 10.50	2 32.387			
	(* 1) W. - - - -	8.2	- -	34.3	40 21.25	3 37.979	+ 0 13.35	+ 35.474	
	Egeria - - - -	22.0	- -	47.2	40 34.60	2 32.375			
14	(* 1) W. - - - -	48.0	1.0	13.0	6 21 0.67	3 49.230	+ 0 54.66	+ 66.149	
	Egeria - - - -	43.0	55.0	8.0	21 55.33	1 43.170			
	(* 1) W. - - - -	3.0	15.2	28.0	24 15.40	3 49.498	+ 0 54.62	+ 66.448	
	Egeria - - - -	57.2	10.0	- -	25 10.02	1 43.139			
	(* 1) W. - - - -	59.2	12.0	25.0	27 12.07	3 49.470	+ 0 54.60	+ 66.347	
	Egeria - - - -	54.0	7.0	19.0	27 6.67	1 43.212			
	(* 1) W. - - - -	53.0	5.0	18.0	30 5.33	3 49.415	+ 0 54.69	+ 66.402	
	Egeria - - - -	- -	0.0	13.0	30 0.02	1 43.102			
	(* 1) W. - - - -	1.2	14.2	27.0	32 14.13	3 49.498	+ 0 54.90	+ 66.457	
	Egeria - - - -	56.0	9.1	22.0	33 9.03	1 43.130			

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 14	(* 1) W.	10.0	23.1	35.7	6 34 22.93	3 49.505	+ 0 55.09	+ 66.579
	Egeria	5.0	18.0	- -	35 18.02	1 43.015		
	(* 1) W.	34.2	47.0	59.5	36 46.90	3 49.473	+ 0 54.77	+ 66.750
	Egeria	29.0	42.0	54.0	37 41.67	1 42.812		
	(* 1) W.	1.5	14.0	27.2	39 14.17	3 49.460	+ 0 55.16	+ 66.589
	Egeria	57.0	9.0	22.0	40 9.33	1 42.960		
	Egeria	4.2	16.0	29.0	47 16.40	3 41.012		
	Weisse I, 775	18.2	31.0	43.0	47 30.73	2 42.280	— 0 14.33	— 28.602
	Egeria	1.2	13.0	26.0	49 13.40	3 40.990		
	Weisse I, 775	14.5	28.2	40.0	49 27.57	2 42.219	— 0 14 17	— 28.641
	Egeria	24.2	36.0	49.0	51 36.40	3 40.780		
	Weisse I, 775	38.0	51.0	3.0	51 50.67	2 42.130	— 0 14.27	— 28.520
	Egeria	17.2	30.0	42.8	53 30.00	3 40.732		
	Weisse I, 775	31.5	45.0	57.0	53 44.50	2 42.332	— 0 14.50	— 28.270
	Egeria	23.0	36.0	- -	55 36.02	3 40.680		
	Weisse I, 775	37.4	49.2	2.3	55 49.63	2 42.260	— 0 13.61	— 28.297
16	Weisse I, 775	52.0	4.8	18.0	5 59 4.93	3 36.851	+ 1 11.30	+ 34.429
	Egeria	- -	16.0	29.0	6 0 16.23	2 32.358		
	Weisse I, 775	23.2	36.0	49.1	4 36.10	3 36.851	+ 1 11.10	+ 34.417
	Egeria	34.6	47.0	0.0	5 47.20	2 32.370		
	Weisse I, 807	- -	- -	36.0	6 23.22	2 37.045	— 0 36.02	+ 4.675
	Weisse I, 775	28.5	40.9	54.0	7 41.13	3 36.888	+ 1 11.30	+ 34.691
	Egeria	40.0	52.3	5.0	8 52.43	2 32.133		
	Weisse I, 807	- -	- -	42.0	9 29.22	2 37.021	— 0 36.79	+ 4.888
	Weisse I, 775	59.2	11.4	25.0	11 11.87	3 36.692	+ 1 12.36	+ 34.448
	Egeria	- -	24.0	36.0	12 24.23	2 32.180		
	Weisse I, 807	- -	59.0	12.0	12 59.23	2 37.104	— 0 35.00	+ 4.924
	Weisse I, 775	12.7	25.1	38.3	15 25.37	3 36.772	+ 1 11.36	+ 34.575
	Egeria	24.2	37.0	49.0	16 36.73	2 32.133		
	Weisse I, 807	- -	- -	25.0	17 12.22	2 37.093	— 0 35.49	+ 4.960
	Weisse I, 775	52.9	5.1	18.1	19 5.37	3 36.790	+ 1 12.03	+ 34.648
	Egeria	5.0	17.2	30.0	20 17.40	2 32.078		
	Weisse I, 807	- -	52.0	5.0	20 52.23	2 37.252	— 0 34.83	+ 5.174
	Weisse I, 775	12.0	24.0	37.1	23 24.37	3 36.660	+ 1 12.30	+ 34.946
	Egeria	24.0	37.0	49.0	24 36.67	2 31.650		
	Weisse I, 775	53.0	6.0	19.0	26 26.00	3 36.578	+ 1 12.00	+ 34.644
	Egeria	5.0	18.0	31.0	27 18.00	2 31.870		
	Weisse I, 807	- -	- -	6.0	27 53.22	2 36.868	— 0 35.22	+ 4.998
24	Weisse I, 896	31.2	44.2	57.0	7 20 44.13	3 24.611	+ 0 31.60	+ 18.995
	Egeria	3.0	16.2	28.0	21 15.73	2 35.752		
	Weisse I, 896	35.2	47.1	0.0	22 47.43	3 24.700	+ 0 31.57	+ 18.996
	Egeria	- -	19.0	32.0	23 19.00	2 35.640		
	Weisse I, 896	14.1	27.6	40.9	26 27.53	3 24.740	+ 0 32.57	+ 18.776
	Egeria	47.1	0.2	13.0	27 0.10	2 35.900		
	Weisse I, 896	49 0	2.0	14.2	27 1.73	3 24.696	+ 0 32.37	+ 18.750
	Egeria	- -	34.1	46.0	28 34.10	2 35.882		

RESULTS.

m. s.
Corr. Chron. + 0 14.53

	α	δ
	h. m. s.	° ′ ″
(* 1) W,	1 42 4.85	+13 40 19.15
Weisse I, 775,	1 43 14.49	+14 0 49.09

Egeria—(* 1) W,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 31 33.29	+ 0 54.81	+17 1.54
	Δt +	.15	
	Δρ	.00	+ .35
	p +	.02	+ 1.66

Egeria—Weisse I, 775,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 51 40.97	— 0 14.18	— 7 17.50
	Δt —	.04	
	Δρ	.00	— .15
	p +	.04	+ 1.65

The intervals of the wires change at this date.

m. s.
Corr. Chron. + 0 15.13

	α	δ
	h. m. s.	° ′ ″
Weisse I, 775,	1 43 14.48	+14 0 48.95
Weisse I, 807,	1 45 1.87	14 8 27.20

Egeria—Weisse I, 775,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 14 46.24	+ 1 11.72	+ 8 51.79
	Δt +	.19	
	Δρ	.00	+ .18
	p +	.01	+ 1.61

Egeria—Weisse I, 807,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 15 25.79	+ 0 35.56	+ 1 15.88
	Δt —	.09	
	Δρ	.00	+ .26
	p +	.01	+ 1.60

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 24	Weisse I, 896	56.2	9.0	22.3	7 31 9.17	3 24.721	+ 0 31.63	+ 18.867
	Egeria	28.3	41.1	53.0	31 40.80	2 35.790		
	Weisse I, 896	9.2	21.3	34.0	33 21.50	3 24.839	+ 0 32.27	+ 19.056
	Egeria	41.3	53.5	6.5	33 53.77	2 35.719		
	Weisse I, 896	26.0	39.1	52.0	37 39.03	3 24.749	+ 0 32.07	+ 18.965
	Egeria	58.0	11.3	24.0	38 11.10	2 35.720		
	Weisse I, 896	- -	- -	35.2	43 22.50	3 24.792	+ 0 32.33	+ 19.105
	Egeria	42.0	55.0	7.5	44 54.83	2 35.623		
	Weisse I, 896	10.3	23.2	35.7	46 23.07	3 24.849	+ 0 32.53	+ 19.263
	Egeria	42.7	56.1	8.0	46 55.60	2 35.522		
	Weisse I, 896	30.2	42.5	55.2	49 42.63	3 24.992	+ 0 32.47	+ 19.350
	Egeria	2.0	15.0	28.3	50 15.10	2 35.578		
	Weisse I, 896	57.0	10.2	23.1	55 10.10	3 24.880	+ 0 33.00	+ 19.426
	Egeria	30.2	43.1	56.0	55 43.10	2 35.390		
	Weisse I, 896	37.1	49.3	2.0	56 49.47	3 24.929	+ 0 32.96	+ 19.506
	Egeria	9.8	22.5	35.0	57 22.43	2 35.359		
25	Weisse I, 896	35.0	48.0	1.0	6 57 48.00	3 39.800	+ 1 25.70	+ 52.345
	Egeria	1.0	- -	- -	59 13.70			
	(* 2) W.	3.0	15.0	28.0	59 15.33	1 47.570		
	Weisse I, 896	57.2	9.7	22.9	7 2 9.93	3 39.930	+ 1 27.74	+ 52.415
	(* 2) W.	25.0	38.0	50.0	3 37.67	1 47.630		
	Weisse I, 896	2.5	15.2	28.0	6 15.23	3 39.945	+ 1 27.67	+ 52.320
	(* 2) W.	30.0	43.0	55.7	7 42.90	1 47.740		
	Weisse I, 896	23.4	36.0	49.0	9 36.13	3 39.840	+ 1 25.87	+ 51.695
	Egeria	49.0	2.0	- -	11 2.00	1 48.260		
	(* 2) W.	51.0	3.5	16.0	11 3.50	1 47.512	− 1 27.37	+ 52.445
	Weisse I, 896	54.0	6.9	19.7	13 6.87	2 39.912	+ 1 25.63	+ 52.455
	Egeria	20.0	- -	- -	14 32.50			
	(* 2) W.	23.0	34.2	47.0	14 34.40	1 47.572		
	Weisse I, 896	36.2	48.5	1.0	16 48.17	3 39.890	+ 1 26.83	+ 52.585
	Egeria	2.0	15.0	- -	18 15.00			
	(* 2) W.	3.2	16.2	29.2	18 16.20	1 47.420		
	Weisse I, 896	11.1	23.4	36.0	21 23.50	3 39.898	+ 1 27.83	+ 52.501
	(* 2) W.	39.0	51.0	4.0	22 51.33	1 47.512		
	Weisse I, 896	42.3	54.9	7.9	25 55.03	3 39.902	+ 1 26.17	+ 52.148
	Egeria	- -	- -	34.0	27 21.20	1 47.869		
	Weisse I, 896	54.6	8.0	21.0	29 7.87	3 39.908	+ 1 27.13	+ 52.333
	Egeria	22.0	35.0	48.0	30 35.00	1 47.690		
	Weisse I, 896	14.9	27.7	41.0	32 27.87	3 39.948	+ 1 26.96	+ 52.383
	Egeria	42.0	55.0	7.5	33 54.83	1 47.680		
	Weisse I, 896	57.6	10.9	23.6	35 10.70	3 39.828	+ 1 27.30	+ 52.363
	Egeria	25.0	38.0	51.0	36 38.00	1 47.580		
	Weisse I, 896	48.1	0.8	13.5	39 0.80	3 39.899	+ 1 27.87	+ 52.374
	Egeria	16.0	29.0	41.0	40 28.67	1 47.640		
31	Egeria	29.2	43.0	56.0	7 47 42.73	2 37.949		
	B. Z., 394, 164	1.9	15.2	28.0	48 15.03	1 51.739	− 0 32.30	− 16.389

RESULTS.

Corr. Chron. + 0 18.96 (m. s.)

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 896,	1 50 33.94	+15 12 2.01

Egeria—Weisse I, 896,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 38 34.43	+ 0 32.28	+ 4 52.16
	Δt +	.09	
	Δϱ	.00	+ .10
	p +	.10	+ 1.57

Corr. Chron. + 0 19.55 (m. s.)

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 896,	1 50 33.93	+15 12 1.95

Egeria—Weisse I, 896,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 23 52.98	+ 1 26.61	+13 22.54
	Δt +	.23	
	Δϱ	.00	+ .28
	p +	.09	+ 1.55

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 31	Egeria	37.0	50.2	3.0	7 50 50.07	2 37.771		
	B. Z., 394, 164	10.0	23.1	36.0	51 23.03	1 51.582	— 0 32.96	— 16.368
	Egeria	29.1	42.0	55.0	53 42.03	2 37.672		
	B. Z., 394, 164	1.7	14.0	27.0	54 14.23	1 51.770	— 0 32.20	— 16.081
	Egeria	53.0	5.0	18.0	57 5.33	2 37.618		
	B. Z., 394, 164	25.1	38.0	50.2	57 37.77	1 51.810	— 0 32.44	— 15.987
	Egeria	11.2	24.2	37.0	8 0 24.13	2 37.600		
	B. Z., 394, 164	42.7	55.7	8.7	0 55.70	1 51.600	— 0 31.57	— 16.179
	Egeria	59.0	12.0	25.0	8 12.00	2 35.561		
	B. Z., 394, 164	30.7	43.7	57.0	8 43.80	1 49.602	— 0 31.80	— 16.138
	Egeria	39.0	52.0	5.0	42 52.00	2 34.828		
	B. Z., 394, 164	8.9	21.9	35.0	43 21.93	1 49.760	— 0 29.93	— 15.247
Feb. 6	Egeria	38.0	50.2	3.0	9 13 50.40	2 35.121		
	568, Rumker	19.2	32.0	44.2	16 31.80	2 31.421	— 2 41.40	— 3.700
	Egeria	1.3	14.3	27.0	20 14.20	2 34.461		
	568, Rumker	45.2	58.0	11.0	22 58.07	2 30.932	— 2 43.87	— 3.529
	Egeria	1.2	14.0	27.0	28 14.07	2 34.221		
	568, Rumker	44.0	57.0	9.7	30 56.90	2 30.598	— 2 42.83	— 3.623
	Egeria	6.2	18.0	30.0	36 18.07	2 33.719		
	568, Rumker	48.1	0.0	13.5	39 0.53	2 30.422	— 2 42.46	— 3.297
	Egeria	51.0	3.0	16.0	46 3.33	2 32.075		
	568, Rumker	32.0	45.0	58.0	48 45.00	2 29.049	— 2 41.67	— 3.026
	Egeria	21.0	34.0	47.0	51 34.00	2 29.610		
	568, Rumker	2.7	15.7	29.0	54 15.80	2 26.681	— 2 41.80	— 2.929
	Egeria	51.0	3.9	16.0	57 3.63	2 29.269		
	568, Rumker	32.0	45.0	58.0	59 45.00	2 26.635	— 2 41.37	— 2.634
	Egeria	33.2	46.0	59.0	10 4 46.07	2 28.716		
	568, Rumker	15.7	28.0	40.7	7 28.13	2 26.205	— 2 42.06	— 2.511
	Egeria	11.2	23.2	36.2	11 23.53	2 28.379		
	568, Rumker	51.0	4.1	17.0	14 4.03	2 25.929	— 2 40.50	— 2.450
7	Egeria	33.0	44.2	- -	8 15 44.03	1 42.920		
	568, Rumker	10.5	24.0	37.0	17 23.83	2 42.641	— 1 39.80	+ 29.900
	Egeria	33.2	46.2	59.0	23 46.07	1 42.812		
	568, Rumker	11.0	24.0	37.0	25 24.00	2 42.431	— 1 37.93	+ 29.798
	Egeria	13.2	26.0	39.0	33 26.07	1 42.530		
	568, Rumker	49.5	3.0	16.0	35 3.33	2 42.460	— 1 37.26	+ 30.109
	Egeria	12.0	25.0	38.0	39 25.00	1 42.610		
	568, Rumker	50.0	3.0	16.0	41 3.00	2 42.478	— 1 38.00	+ 30.047
	Egeria	27.0	40.0	54.0	41 40.33	1 42.530		
	568, Rumker	4.2	17.0	30.2	43 17.13	2 42.530	— 1 36.80	+ 30.179
	Egeria	10.0	- -	36.0	47 23.00	1 42.039		
	568, Rumker	47.0	- -	13.0	49 00.00	2 42.540	— 1 37.00	+ 30.680
	Egeria	32.0	45.0	58.0	50 45.00	1 42.010		
	568, Rumker	- -	21.2	34.2	52 21.20	2 42.165	— 1 36.20	+ 30.334
	Egeria	28.0	- -	54.0	9 7 41.00	1 41.551		
	568, Rumker	3.5	17.2	29.2	9 16.63	2 42.553	— 1 35.63	+ 31.181

RESULTS.

Jan. 31: Corr. Chron. m. s. + 0 23.71

	a	δ
	h. m. s.	° ′ ″
B. Z., 394, 164,	1 58 26.27	+16 22 9.94

Egeria—B. Z., 394, 164,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 3 22.04	— 0 31.89	— 4 6.79
	Δt	— .09	
	Δϱ	.00	— .09
	p	+ .13	+ 1.56

Feb. 6: Corr. Chron. m. s. + 0 29.86

	a	δ
	h. m. s.	° ′ ″
568 Rumker,	2 7 11.94	+17 13 11.32

Egeria—568 Rumker,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 43 46.22	— 2 42.00	— 0 47.29
	Δt	— .44	
	Δϱ	.00	— .03
	p	+ .18	+ 1.80

7: Corr. Chron. m. s. + 0 30.28

	a	δ
	h. m. s.	° ′ ″
568 Rumker,	2 7 11.92	+17 13 11.25

Egeria—568 Rumker,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 40 14.09	— 1 37.33	+ 7 45.36
	Δt	— .27	
	Δϱ	+ .00	+ .21
	p	+ .15	+ 1.62

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 11	4238 Lalande	39.0	52.0	5.0	7 49 52.00	3 36.141	+ 0 44.00	+ 45.166
	Egeria	23.0	36.0	- -	50 36.00	1 51.090		
	4238 Lalande	4.0	16.9	29.5	54 16.80	3 36.142	+ 0 44.20	+ 45.182
	Egeria	48.0	1.0	14.0	55 1.00	1 51.075		
	4238 Lalande	20.0	33.0	46.0	56 33.00	3 36.252		
	Egeria	4.0	17.0	- -	57 17.00	Clouds.		
	4238 Lalande	0.0	- -	26.0	8 19 13.00	3 36.050	+ 0 46.20	+ 45.765
	Egeria	- -	- -	12.2	19 59.20	1 50.400		
	4238 Lalande	21.2	33.7	46.5	24 33.80	3 36.121	+ 0 45.20	+ 45.868
	Egeria	6.0	19.2	32.0	25 19.00	1 50.368		
	4238 Lalande	47.0	- -	13.0	28 0.00	3 36.170	+ 0 47.00	+ 46.384
	Egeria	34.0	47.0	0.0	28 47.00	1 49.901		
12	4238 Lalande	43.2	- -	9.0	7 51 56.10	3 57.934	+ 1 58.02	+ 80.931
	Egeria	- -	54.0	6.0	53 54.12	1 37.118		
	4238 Lalande	37.2	50.9	3.0	55 50.37	3 57.900	+ 1 56.75	+ 80.985
	Egeria	- -	47.0	0.0	57 47.12	1 37.030		
	4238 Lalande	13.2	26.0	39.0	8 0 26.07	3 57.765	+ 1 57.33	+ 80.895
	Egeria	10.0	23.2	37.0	2 23.40	1 36.985		
	4238 Lalande	14.2	27.0	41.0	4 27.40	3 57.907	+ 1 59.03	+ 81.122
	Egeria	13.0	26.3	- -	6 26.43	1 36.900		
	4238 Lalande	58.1	10.3	24.0	8 10.80	3 57.862	+ 1 58.27	+ 81.326
	Egeria	56.3	8.9	22.0	10 9.07	1 36.651		
	4238 Lalande	4.3	17.5	30.0	13 17.27	3 57.851	+ 1 58.56	+ 81.545
	Egeria	2.5	16.0	29.0	15 15.83	1 36.421		
	4238 Lalande	8.2	21.0	34.0	18 21.40	3 57.882	+ 1 58.23	+ 81.537
	Egeria	6.7	19.2	33.0	20 19.63	1 36.460		
	4238 Lalande	42.7	55.2	8.7	22 55.53	3 57.860	+ 1 58.47	+ 81.706
	Egeria	41.0	54.0	7.0	24 54.00	1 36.269		
	4238 Lalande	49.0	2.0	15.0	28 2.00	3 57.735	+ 1 58.90	+ 81.661
	Egeria	48.0	1.0	13.7	30 0.90	1 36.189		
	4238 Lalande	57.1	9.2	23.0	32 9.77	3 57.801	+ 1 58.66	+ 81.866
	Egeria	56.0	8.3	21.0	34 8.43	1 36.050		
16	Egeria	1.0	13.0	26.0	8 1 13.33	3 34.169		
	B. Z., 332, 45	51.0	4.0	17.0	2 4.00	2 27.535	− 0 50.67	− 36.570
	Egeria	53.1	6.0	19.0	8 6.03	3 34.020		
	B. Z., 332, 45	44.1	56.7	9.5	8 56.77	2 27.510	− 0 50.74	− 36.446
	Egeria	29.3	41.9	55.0	9 42.07	3 33.925		
	B. Z., 332, 45	- -	32.1	45.7	10 32.10	2 27.481	− 0 50.03	− 36.380
	Egeria	28.3	41.0	54.0	12 41.10	3 33.879		
	B. Z., 332, 45	18.0	30.9	44.0	13 30.97	2 27.558	− 0 49.87	− 36.257
	Egeria	8.0	- -	33.0	16 20.50	3 33.840		
	B. Z., 332, 45	57.1	10.3	23.2	17 10.20	2 27.480	− 0 49.70	− 36.296
	Egeria	3.2	15.2	28.0	19 15.47	3 33.690		
	B. Z., 332, 45	52.0	5.2	18.0	20 5.07	2 27.481	− 0 49.60	− 36.145

RESULTS.

Feb. 11: Corr. Chron. + 0 m. 31.99 s.

	α	δ
4238 Lalande,	2 h. 9 m. 29.75 s.	+17° 45′ 35″.90

Egeria—4238 Lalande,

		Δα	Δδ
M. T.	8 h. 12 m. 28.43 s.	+ 0 m. 45.32 s.	+11′ 41″.98
	Δt	+ .12	
	Δϱ	.00	+ .29
	p	+ .14	+ 1.52

12: Corr. Chron. + 0 m. 32.33 s.

	α	δ
4238 Lalande,	2 h. 9 m. 29.76 s.	+17° 45′ 35″.83

Egeria—4238 Lalande,

		Δα	Δδ
M. T.	8 h. 14 m. 4.23 s.	+ 1 m. 55.22 s.	+20′ 50″.42
	Δt	+ .32	
	Δϱ	+ .01	+ .52
	p	+ .14	+ 1.51

16: Corr. Chron. + 0 m. 35.43 s.

	α	δ
B. Z., 332, 45,	2 h. 17 m. 20.24 s.	+18° 52′ 37″.01

Egeria—B. Z., 332, 45,

		Δα	Δδ
M. T.	8 h. 16 m. 51.64 s.	− 0 m. 49.91 s.	− 9′ 17″.50
	Δt	− .14	
	Δϱ	.00	− .24
	p	+ .15	+ 1.47

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 16	Egeria	29.1		55.2	8 22 42.15	3 33.742		
	B. Z., 332, 45	19.0	32.0	45.0	23 32.00	2 27.525	− 0 49.85	− 36.153
	Egeria	29.3	43.0	55.2	25 42.50	3 33.638		
	B. Z., 332, 45	19.0	31.9	45.0	26 31.97	2 27.488	− 0 49.47	− 36.086
	Egeria	29.2	43.0	56.0	30 42.73	3 33.652		
	B. Z., 332, 45	19.0	32.0	45.0	31 32.00	2 27.460	− 0 49.27	− 36.128
17	B. Z., 332, 45	43.2	56.5	9.0	9 5 56.23	2 35.729	+ 0 29.77	+ 0.908
	Egeria	13.0	26.0	39.0	6 26.00	2 34.821		
	B. Z., 332, 45	47.0	59.7	13.0	8 59.90	2 35.661	+ 0 29.57	+ 1.042
	Egeria		29.2	43.0	9 39.47	2 34.619		
	B. Z., 332, 45	5.7	18.2	32.0	11 18.63	2 35.689	+ 0 29.94	+ 0.967
	Egeria	36.0	48.2	1.5	11 48.57	2 34.722		
	B. Z., 332, 45	4.3	17.2	30.5	13 17.33	2 35.592	+ 0 30.04	+ 1.060
	Egeria		47.2	0.0	13 47.37	2 34.532		
	B. Z., 332, 45	59.5	12.0	25.2	15 13.23	2 35.512	+ 0 29.97	− 1.152
	Egeria	29.5	42.1	55.0	15 42.20	2 34.360		
	B. Z., 332, 45	7.5	20.0	33.0	17 20.16	2 35.559	+ 0 30.37	− 1.097
	Egeria	37.9	50.2	3.5	17 50.53	2 34.462		
	B. Z., 332, 45	55.0	8.0	21.5	18 8.23	2 35.460	+ 0 30.14	− 1.129
	Egeria		38.2	51.0	18 38.37	2 34.331		
	B. Z., 332, 45	47.2	59.5	13.2	20 59.97	2 35.432	+ 0 29.93	− 1.320
	Egeria	17.5	29.2	43.0	21 29.90	2 34.112		
	B. Z., 332, 45	58.2	11.3	24.6	23 11.37	2 35.409	+ 0 30.03	− 1.314
	Egeria	29.0	42.0	54.2	23 41.40	2 34.095		
	B. Z., 332, 45	23.2	36.2	49.1	25 36.17	2 35.362	+ 0 31.00	− 1.520
	Egeria		7.0	19.0	26 7.17	2 33.842		
22	Egeria	27.2	39.0	52.0	7 46 39.40	3 37.930		
	654 Rumker	7.9	21.2	34.2	47 21.10	2 36.368	− 0 41.70	− 31.498
	Egeria	31.0	43.2	56.2	52 43.47	3 37.670		
	654 Rumker	11.5	25.0	37.5	53 24.67	2 36.440	− 0 41.20	− 31.166
	Egeria	29.2	42.2	55.0	56 42.13	3 37.619		
	654 Rumker	9.7	22.7	36.0	57 22.80	2 36.314	− 0 40.67	− 31.241
	Egeria	13.2	25.7	39.0	8 0 25.97	3 37.483		
	654 Rumker	53.2	6.5	19.2	1 6.30	2 36.365	− 0 40.33	− 31.054
	Egeria	52.5	5.2	19.2	4 5.63	3 37.430		
	654 Rumker	33.0	46.5	59.0	4 46.17	2 36.378	− 0 40.54	− 30.988
	Egeria	32.2	45.1	58.0	8 45.10	3 37.221		
	654 Rumker		25.0	38.3	9 25.14	2 36.322	− 0 40.04	− 30.835
	Egeria	44.0	57.0	9.0	12 56.67	3 37.231		
	654 Rumker	23.7	37.0	50.3	13 37.00	2 36.221	− 0 40.63	− 30.946
	Egeria	43.2	56.1	9.0	17 56.10	3 37.100		
	654 Rumker	22.7	36.0	49.1	18 35.93	2 36.272	− 0 39.83	− 30.764
	Egeria	53.5	7.2	19.2	22 6.63	3 37.068		
	654 Rumker	33.2	46.7	59.3	22 46.40	2 36.242	− 0 39.77	− 30.762

RESULTS.

Corr. Chron. + 0 35.56 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 332, 45,	2 17 20.23	+18 52 36.93

Egeria—B. Z., 332, 45,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 17 6.66	+ 0 30.08	− 0 17.69
	Δt	+ .08	
	Δϱ	.00	− .01
	p	+ .17	+ 1.69

Corr. Chron. + 0 36.36 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
654 Rumker,	2 25 6.18	+19 46 39.79

Egeria—654 Rumker,

		Δα (m. s.)	Δδ (′ ″)
M. T.	8 17 13.57	− 0 39.88	− 7 52.82
	Δt	− .11	
	Δϱ	.00	− .22
	p	+ .15	+ 1.47

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 22	Egeria	49.2	1.5	14.2	8 24 1.63	3 36.779		
	654 Rumker	28.1	41.0	54.0	24 41.03	2 36.222	— 0 39.40	— 30.493
	Egeria	58.0	10.5	23.5	26 10.67	3 36.731		
	654 Rumker	- -	50.2	3.2	26 50.16	2 36.202	— 0 39.49	— 30.465
	Egeria	18.2	31.0	44.0	29 31.07	3 36.671		
	654 Rumker	57.2	10.9	24.0	30 10.70	2 36.105	— 0 39.63	— 30.502
	Egeria	42.2	- -	8.0	31 55.10	3 36.672		
	654 Rumker	21.2	34.1	47.3	32 34.20	2 36.221	— 0 39.10	— 30.387
	Egeria	51.2	4.0	17.5	34 4.23	3 36.661		
	654 Rumker	30.0	43.0	56.0	34 43.00	2 36.090	— 0 38.77	— 30.507
	Egeria	40.5	53.5	6.0	37 53.16	3 36.490		
	654 Rumker	19.3	32.0	45.0	38 32.10	2 36.139	— 0 38.94	— 30.287
	Egeria	46.2	59.2	12.0	39 59.13	3 36.370		
	654 Rumker	24.0	37.5	51.0	40 37.50	2 36.001	— 0 38.37	— 30.305
26	654 Rumker	35.2	48.2	1.0	7 4 48.13	3 43.570	+ 1 35.47	+ 71.080
	Egeria	- -	- -	37.0	6 23.60	1 54.535		
	654 Rumker	1.2	13.2	27.0	18 13.80	3 43.539	+ 1 36.37	+ 71.081
	Egeria	- -	50.0	4.0	19 50.17	1 54.505		
	654 Rumker	58.5	11.2	25.0	22 11.57	3 43.590	+ 1 37.03	+ 70.955
	Egeria	- -	- -	2.0	23 48.60	1 54.430		
	654 Rumker	0.8	13.0	27.0	26 13.60	3 43.510	+ 1 37.57	+ 70.893
	Egeria	- -	51.0	4.0	27 51.17	1 54.288		
	654 Rumker	20.7	-	47.0	31 33.85	3 43.582	+ 1 37.15	+ 70.715
	Egeria	58.0	11.0	24.0	33 11.00	1 54.182		
	654 Rumker	56.0	9.0	22.0	36 9.00	3 43.648	+ 1 38.00	+ 70.535
	Egeria	34.0	47.0	0.0	37 47.00	1 54.068		
	654 Rumker	2.7	15.2	29.1	40 15.67	3 43.661	+ 1 37.83	+ 70.484
	Egeria	40.5	53.0	7.0	41 53.50	1 54.030		
	654 Rumker	7.5	21.0	34.0	44 20.83	3 43.585	+ 1 38.37	+ 70.400
	Egeria	46.6	59.0	12.0	45 59.20	1 53.870		
	654 Rumker	22.2	- -	48.0	50 35.10	3 43.521	+ 1 38.63	+ 70.175
	Egeria	0.0	14.0	27.2	52 13.73	1 53.581		
	654 Rumker	57.9	- -	24.4	54 11.15	3 43.622	+ 1 38.92	+ 70.073
	Egeria	37.0	50.0	3 2	55 50.07	1 53.580		
	654 Rumker	19.1	32.0	45.7	57 32.27	3 43.681	+ 1 39.10	+ 69.995
	Egeria	- -	11.2	24.8	59 11.37	1 53.561		
	654 Rumker	35.6	48.0	2.2	8 0 48.60	3 43.660	+ 1 39.50	+ 69.943
	Egeria	15.3	28.0	41.0	2 28.10	1 53.488		
	654 Rumker	10.2	23.0	36.0	4 23.07	3 43.658	+ 1 39.06	+ 69.786
	Egeria	49.2	2.0	15.2	6 2.13	1 53.329		
Mar. 1	Egeria	13.2	26.5	40.2	8 9 26.63	1 56.228		
	B. Z., 391, 37	10.0	23.2	36.0	10 23.07	3 46.639	— 0 56.44	+ 50.526
	Egeria	31.2	44.0	57.0	12 44.07	1 56.020		
	B. Z., 391, 37	27.3	39.7	53.0	13 40.00	3 46.661	— 0 55.93	+ 50.756

RESULTS.

m. s.
Corr. Chron. + 0 38.70

	α	δ
	h. m. s.	° ′ ″
654 Rumker,	2 25 6.13	+19 46 39.67

Egeria—654 Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 41 36.36	+ 1 37.92	+18 3.10
	Δt	+ .27	
	Δρ	+ .01	+ .45
	p	+ .14	+ 1.38

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 1	Egeria	49.2	2.0	15.0	8 16 2.07	1 56.065		
	B. Z., 391, 37	44.7	58.1	10.5	16 57.76	3 46.650	− 0 55.69	+ 50.700
	Egeria	34.0	47.1	0.0	18 47.03	1 55.959		
	B. Z., 391, 37	29.2	42.5	55.0	19 42.23	3 46.688	− 0 55.20	+ 50.844
	Egeria	28.0	41.2	54.2	24 41.13	1 55.718		
	B. Z., 391, 37	23.5	36.7	50.2	25 36.80	3 46.671	− 0 55.67	+ 51.068
	Egeria	22.2	35.5	48.5	27 35.40	1 55.576		
	B. Z., 391, 37	. .	30.7	43.5	28 30.65	3 46.591	− 0 55.25	+ 51.130
	Egeria	32.0	45.0	58.0	32 45.00	1 55.378		
	B. Z., 391, 37	27.2	40.2	53.2	33 40.20	3 46.517	− 0 55.20	+ 51.254
	Egeria	21.0	34.0	47.0	37 34.00	1 55.262		
	B. Z., 391, 37	15.0	28.2	41.7	38 28.30	3 46.487	− 0 54.30	+ 51.340
	Egeria	31.5	44.8	58.2	42 44.83	1 54.995		
	B. Z., 391, 37	26.2	38.8	52.2	43 39.07	3 46.380	− 0 54.24	+ 51.500
	Egeria	55.1	. .	21.0	45 8.05	1 54.732		
	B. Z., 391, 37	49.2	1.9	15.2	46 2.10	3 46.278	− 0 54.05	+ 51.661
	Egeria	45.2	.	11.0	58 58.10	1 54.231		
	B. Z., 391, 37	. .	51.3	4.3	59 51.25	3 45.982	− 0 53.15	+ 51.866
2	Egeria	58.0	11.0	24.0	8 8 11.00	2 54.532		
	695 Rumker	32.0	46.0	59.2	8 45.73	1 61.592	− 0 34.73	− 23.119
	Egeria	45.7	59.0	12.0	11 58.90	2 54.265		
	695 Rumker	19.5	32.9	46.2	12 32.87	1 61.380	− 0 33.97	− 23.064
	Egeria	51.3	4.7	18.0	14 4.67	2 54.220		
	695 Rumker	25.7	39.2	52.2	14 39.03	1 61.551	− 0 34.36	− 22.848
	Egeria	20.2	33.0	46.0	16 33.07	2 54.221		
	695 Rumker	54.3	7.3	20.7	17 7.43	1 61.371	− 0 34.36	− 23.029
	Egeria	49.0	2.2	14.9	18 2.43	2 54.112		
	695 Rumker	22.0	35.9	49.2	18 35.70	1 61.351	− 0 33 27	− 22.940
	Egeria	31.2	44.0	57.0	19 44.07	2 54.033		
	695 Rumker	4.8	17.9	30.9	20 17.87	1 61.270	− 0 33.80	− 22.942
	Egeria	25.2	38.2	51.2	24 38.20	2 53.768		
	695 Rumker	59.0	11.9	25.1	25 12.00	1 61.362	− 0 33.80	− 22.585
	Egeria	41.2	53.7	7.0	27 53.97	2 53.778		
	695 Rumker	13.8	27.2	40.2	28 27.07	1 61.347	− 0 33.10	− 22.610
	Egeria	49.2	. .	16.2	30 2.70	2 53.778		
	695 Rumker	. .	36.2	49.1	30 36.19	1 61.275	− 0 33.49	− 22.682
	Egeria	48.3	1.3	15.1	32 1.57	2 53.629		
	695 Rumker	. .	34.2	48.0	32 34.19	1 61.258	− 0 32.62	− 22.550
	Egeria	18.2	31.7	44.6	33 31.50	2 53.618		
	695 Rumker	51.2	4.1	17.5	34 4.27	1 61.281	− 0 32.77	− 22.516
	Egeria	8.3	21.0	34.0	35 21.10	2 53.350		
	695 Rumker	41.2	54.0	7.0	35 54.07	1 61.257	− 0 32.97	− 22.272
3	695 Rumker	12.7	25.2	39.0	8 1 25.63	2 40.456	+ 0 52.87	+ 13.018
	Egeria	. .	18.5	31.0	2 18.50	2 27.438		

RESULTS.

Corr. Chron. + 0 38.88 (m. s.)

B. Z., 391, 37, — a: 2 h. 28 m. 18.67 s; δ: +20° 2′ 50.56″

Egeria—B. Z., 391, 37,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	8 30 19.45	− 0 55.01	+13 6.14
	Δt	− .15	
	Δϱ	+ .02	+ .46
	p	+ .16	+ 1.54

Corr. Chron. + 0 38.87 (m. s.)

695 Rumker, — a: 2 h. 36 m. 19.10 s; δ: +20° 58′ 46″ 76

Egeria—695 Rumker,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	8 23 19.24	− 0 33.60	− 5 49.85
	Δt	− .09	
	Δϱ	.00	− .18
	p	+ .16	+ 1.45

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 3	695 Rumker	14.2	27.0	40.0	8 5 27.07	2 40.281	+ 0 52.96	+ 12.830
	Egeria	7.0	20.1	33.0	6 20.03	2 27.451		
	695 Rumker	49.2	2.1	15.3	8 2.20	2 40.249	+ 0 53.70	+ 12.968
	Egeria	42.7	56.0	9.0	8 55.90	2 27.281		
	695 Rumker	7.0	20.0	33.0	10 20.06	2 40.202	+ 0 53.94	+ 12.900
	Egeria	1.0	14.0	27.0	11 14.00	2 27.302		
	695 Rumker	49.1	2.0	16.0	13 2.40	2 40.269	+ 0 53.60	+ 13.128
	Egeria	43.0	56.0	9.0	13 56.00	2 27.141		
	695 Rumker	52.0	5.0	18.2	15 5.07	2 40.180	+ 0 53.00	+ 13.020
	Egeria	45.0	58.2	11.0	15 58.07	2 27.160		
	695 Rumker	23.9	37.5	51.2	17 37.53	2 40.218	+ 0 53.63	+ 13.137
	Egeria	18.0	31.5	44.0	18 31.16	2 27.081		
	695 Rumker	3.2	16.2	29.2	9 10 16.17	2 35.968	+ 0 56.90	+ 14.546
	Egeria	0.0	13.2	26.0	11 13.07	2 21.422		
	695 Rumker	15.2	28.0	42.0	13 28.40	2 35.840	+ 0 57.27	+ 14.532
	Egeria	12.5	25.5	39.0	14 25.67	2 21.308		
	695 Rumker	51.2	4.7	17.6	16 4.50	2 35.810	+ 0 57.17	+ 14.500
	Egeria	48.0	2.0	15.0	17 1.67	2 21.310		
	695 Rumker	27.5	41.0	54.0	21 40.83	2 35.361	+ 0 57.47	+ 15.063
	Egeria	25.0	38.6	51.3	22 38.30	2 20.298		
	695 Rumker	7.2	20.0	33.7	24 20.30	2 35.352	+ 0 57.83	+ 14.833
	Egeria	5.1	18.1	31.2	25 18.13	2 20.518		
10	742 Rumker	39.7	52.9	6.2	7 50 52.93	1 46.605	+ 0 54.18	− 51.195
	Egeria	. .	47.0	0.0	51 47.11	3 37.685		
	742 Rumker	27.2	40.0	54.0	55 40.40	1 46.606	+ 0 54.63	− 50.919
	Egeria	22.0	35.1	48.0	56 35.03	3 37.410		
	742 Rumker	49.1	2.1	15.7	58 2.30	1 46.571	+ 0 54.77	− 50.795
	Egeria	44.0	57.2	10.0	58 57.07	3 37.251		
	742 Rumker	17.9	32.2	45.7	8 0 31.93	1 46.449	+ 0 54.20	− 50.835
	Egeria	13.2	26.0	39.2	1 26.13	3 37.169		
	742 Rumker	38.7	51.7	5.0	2 51.80	1 46.479	+ 0 54.47	− 50.536
	Egeria	. .	. .	59.5	3 46.27	3 36.900		
	742 Rumker	59.2	12.5	26.0	6 12.57	1 46.512	+ 0 55.10	− 50.661
	Egeria	54.2	7.2	21.6	7 7.67	3 37.058		
	742 Rumker	4.1	17.1	30.2	8 17.13	1 46.541	+ 0 55.10	− 50.632
	Egeria	58.7	12.0	26.0	9 12.23	3 37.058		
11	742 Rumker	22.1	.	48.2	8 9 35.15	1 36.250	+ 2 28.68	− 14.799
	Egeria	50.5	4.0	17.0	12 3.83	2 20.870		
	742 Rumker	26.2	39.6	53.2	14 39.67	1 36.204	+ 2 29.73	− 14.770
	Egeria	56.0	9.2	23.0	17 9.40	2 20.795		
	742 Rumker	29.3	42.2	56.1	19 42.53	1 36.140	+ 2 30.14	− 14.119
	Egeria	59.0	13.0	26.0	22 12.67	2 20.080		
	742 Rumker	25.1	38.1	52.0	25 38.40	1 36.101	+ 2 30.43	− 14.463
	Egeria	55.5	9.0	22.0	28 8.83	2 20.385		
	742 Rumker	19.7	32.9	46.0	30 32.87	1 35.941	+ 2 30.29	− 14.418
	Egeria	50.0	3.0	16.5	33 3.16	2 20.180		

RESULTS.

Corr. Chron. + 0 m. 39.70 s.

695 Rumker, α = 2 h. 36 m. 19.08 s., δ = +20° 58′ 46.70″

Egeria—695 Rumker,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	8 39 38.91	+ 0 55.28	+ 3 30.66
		Δt + .15	
		Δϱ .00	+ .13
		p + .16	+ 1.45

Corr. Chron. + 0 m. 44.18 s.

742 Rumker, α = 2 h. 46 m. 54.91 s., δ = +22° 19′ 25.26″

Egeria—742 Rumker,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	8 2 0.11	+ 0 54.64	−13 0.71
		Δt + .15	
		Δϱ − .01	− .39
		p + .15	+ 1.41

Corr. Chron. + 0 m. 45.25 s.

742 Rumker, α = 2 h. 46 m. 54.90 s., δ = +22° 19′ 25.18″

Egeria—742 Rumker,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	8 38 58.19	+ 2 30.50	− 3 37.53
		Δt + .41	
		Δϱ − .01	− .15
		p + .16	+ 1.53

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 11	742 Rumker	5.0	18.2	31.5	8 54 18.23	1 35.061	+ 2 31.44	− 13.037
	Egeria	36.0	50.0	3.0	56 49.67	2 17.919		
	742 Rumker	16.9	30.1	43.6	9 0 30.20	1 34.780	+ 2 32.80	− 13.467
	Egeria	- -	3.0	16.0	3 3.00	2 18.068		
13	Egeria	44.2	58.0	11.0	7 35 57.73	1 43.958		
	B. Z., 27, 58	- -	15.0	- -	38 14.98	2 34.400	− 2 17.25	+ 20.621
	Egeria	58.7	12.0	26.0	46 12.23	1 43.755		
	B. Z., 27, 58	15.2	28.7	42.1	48 28.67	2 34.612	− 2 16.44	+ 21.036
	Egeria	43.0	55.7	9.0	50 55.90	1 43.620		
	B. Z., 27, 58	59.5	2.9	26.2	52 12.87	2 34.513	− 2 16.97	+ 21.072
	Egeria	51.2	4.4	18.1	55 4.57	1 43.476		
	B. Z., 27, 58	7.4	21.1	34.0	57 20.83	2 34.488	− 2 16.26	+ 21.191
	Egeria	2.7	- -	29.0	7 59 15.85	1 43.286		
	B. Z., 27, 58	17.9	32.0	44.9	8 1 31.60	2 34.317	− 2 15.75	+ 21.210
	Egeria	50.3	4.0	17.0	3 3.77	1 43.179		
	B. Z., 27, 58	5.7	19.1	32.0	5 18.93	2 34.249	− 2 15.16	+ 21.249
	Egeria	39.2	52.0	5.7	6 52.30	1 43.101		
	B. Z., 27, 58	54.9	7.9	21.0	9 7.93	2 34.263	− 2 15.63	+ 21.341
	Egeria	3.0	16.0	29.2	13 16.07	1 42.775		
	B. Z., 27, 58	18.7	32.0	45.0	15 31.90	2 34.280	− 2 15.83	+ 21.684
	Egeria	59.2	12.9	26.2	16 12.77	1 42.301		
	B. Z., 27, 58	14.3	27.1	41.0	19 27.47	2 34.109	− 2 14.70	+ 21.987
	Egeria	13.2	26.2	39.0	21 26.13	1 42.410		
	B. Z., 27, 58	27.5	40.9	54.0	23 40.80	2 34.110	− 2 14.67	+ 21.879
21	Egeria	11.0	25.0	38.0	8 43 24.67	2 43.262		
	B. Z., 530, 91	52.0	5.7	19.2	45 5.63	2 32.638	− 1 40.96	− 10.624
	Egeria	44.0	57.5	11.0	47 57.50	2 42.735		
	B. Z., 530, 91	24.4	38.1	51.2	49 37.90	2 32.221	− 1 40.40	− 10.514
	Egeria	22.0	-	49.0	53 35.50	2 42.240		
	B. Z., 530, 91	2.0	16.2	29.0	55 15.73	2 32.020	− 1 40.23	− 10.220
25	Egeria	14.2	27.5	41.0	7 48 27.57	2 33.645		
	845 Rumker	12.5	26.0	39.0	49 25.83	3 34.862	− 0 58.26	+ 31.153
	Egeria	50.2	3.1	16.5	52 3.27	2 33.522		
	845 Rumker	48.2	1.3	15.2	53 1.57	3 34.751	− 0 58.30	+ 31.165
	Egeria	9.2	23.0	36.0	54 22.73	2 33.262		
	845 Rumker	8.0	21.0	35.0	55 21.33	3 34.661	− 0 58.60	+ 31.335
	Egeria	54.2	8.2	21.0	58 7.80	2 33.180		
	845 Rumker	52.5	6.0	20.0	59 6.17	3 34.740	− 0 58.37	+ 31.496
	Egeria	14.1	27.1	41.0	8 1 27.40	2 33.166		
	845 Rumker	11.7	25.0	38.0	2 24.90	3 34.660	− 0 57.50	+ 31.430
	Egeria	51.0	4.7	18.1	3 4.60	2 33.055		
	845 Rumker	49.2	2.5	16.1	4 2.57	3 34.630	− 0 57.97	+ 31.511
	Egeria	59.0	13.0	26.2	7 12.73	2 32.899		
	845 Rumker	56.5	10.0	24.3	8 10.27	3 34.500	− 0 57.54	+ 31.537

RESULTS.

Corr. Chron. + 0 m. 45.93 s.

	α	δ
B. Z., 27, 58,	h. m. s. 2 54 49.74	° ′ ″ +22 28 16.59

Egeria—B. Z., 27, 58,

		Δα	Δδ
M. T.	h. m. s. 8 1 41.66	m. s. − 2 15.87	′ ″ + 5 27.79
	Δt	− .37	
	Δϱ	.00	+ .17
	p	+ .16	+ 1.37

Corr. Chron. + 0 m. 46.48 s.

	α	δ
B. Z., 530, 91,	h. m. s. 3 7 22.34	° ′ ″ +23 48 30.95

Egeria—B. Z., 530, 91,

		Δα	Δδ
M. T.	h. m. s. 8 49 5.70	m. s. − 1 40.53	′ ″ − 2 40.66
	Δt	− .27	
	Δϱ	− .01	− .17
	p	+ .16	+ 1.58

Corr. Chron. + 0 m. 46.67 s.

	α	δ
845 Rumker,	h. m. s. 3 13 22.48	° ′ ″ +24 12 39.83

Egeria—845 Rumker,

		Δα	Δδ
M. T.	h. m. s. 8 5 21.92	m. s. − 0 57.65	′ ″ + 8 4.25
	Δt	− 0.16	
	Δϱ	.01	+ .31
	p	+ .16	+ 1.40

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 25	Egeria	10.2	23.2	37.0	8 11 23.47	2 32.635		
	845 Rumker	7.0	20.5	34.0	12 20.50	3 34.432	− 0 57.03	+ 31.733
	Egeria	26.9	40.0	53 5	14 40.13	2 32.590		
	845 Rumker	24.1	37.5	51.0	15 37.53	3 34.231	− 0 57.40	+ 31.577
	Egeria	31.5	45.1	58.7	17 45.10	2 32.269		
	845 Rumker	28.1	41.9	55.0	18 41.67	3 34.220	− 0 56.57	+ 31.887
	Egeria	39.5	53.0	6.3	21 52.93	2 32.268		
	845 Rumker	35.7	49.0	4.0	22 49.57	3 34.080	− 0 56.64	+ 31.748
26	845 Rumker	55.2	9.0	22.0	7 15 8.73	3 35.962	+ 0 42.24	+ 64.382
	Egeria	..	51.0	4.0	15 50.97	1 31.695		
	849 Rumker	1.9	15.2	29.0	17 15.37	3 40.479	− 1 24.40	+ 68.899
	845 Rumker	4.2	18.2	31.3	19 17.90	3 35.937	+ 0 41.77	+ 64.392
	Egeria	46.0	59.5	13.5	19 59.67	1 31.660		
	849 Rumker	11.0	24.5	38.0	21 24.50	3 40.580	− 1 24.83	+ 69.035
	845 Rumker	47.1	0.7	13.9	23 0.57	3 35.869	+ 0 42.26	+ 64.399
	Egeria	29.0	43.0	56.5	23 42.83	1 31.585		
	849 Rumker	54.1	6.9	20.7	25 7.23	3 40.549	− 1 24.40	+ 69.079
	845 Rumker	22.0	35.8	49.0	27 35.60	3 35.915	+ 0 42.57	+ 64.588
	Egeria	5.0	18.0	31.5	28 18.17	1 31.442		
	849 Rumker	29.5	43.0	56.0	29 42.83	3 40.522	− 1 24.66	+ 69.195
	845 Rumker	37.1	50.2	4.2	30 50.50	3 35.872	+ 0 42.40	+ 64.707
	Egeria	19.5	33.2	46.0	31 32.90	1 31.280		
	849 Rumker	43.7	57.2	11.0	32 57.30	3 40.401	− 1 24.40	+ 69.236
	845 Rumker	4.2	17.2	31.0	34 17.80	3 35.738	+ 0 42.60	+ 65.136
	Egeria	47.0	0.2	14.0	35 0.40	1 30.709		
	849 Rumker	10.2	24.0	38.0	36 24.07	3 40.359	− 1 23.67	+ 69.765
	845 Rumker	30.7	44.0	58.1	37 44.27	3 35.751	+ 0 43.33	+ 64.898
	Egeria	13.9	27.9	41.0	38 27.60	1 30.968		
	849 Rumker	37.5	50.8	4.1	39 50.80	3 40.341	− 1 23.20	+ 69.488
	845 Rumker	55.2	9.1	22.9	41 9.07	3 35.756	+ 0 42.90	+ 64.962
	Egeria	..	52.0	11.0	41 51.97	1 30.909		
	849 Rumker	2.7	16.1	29.6	43 16.13	3 40.308	− 1 24.16	+ 69.514
	845 Rumker	46.2	59.3	13.0	45 59.50	3 35.621	+ 0 43.57	+ 65.078
	Egeria	29.1	43.2	56.9	46 43.07	1 30.658		
	849 Rumker	52.7	6.0	19.3	48 6.00	3 40.221	− 1 22.93	+ 69.678
	845 Rumker	1.9	15.0	29.1	49 15.33	3 35.598	+ 0 44.57	+ 65.158
	Egeria	46.1	0.1	13.2	49 59.80	1 30.555		
	849 Rumker	9.2	22.1	36.0	51 22.43	3 40.200	− 1 22.63	+ 69.760
28	B. Z., 530, 104	39.7	53.1	7.0	7 11 53.27	2 38.171	+ 1 21.53	− 31.225
	Egeria	..	15.0	28.0	13 14.80	3 39.460		
	B. Z., 530, 104	59.2	12.6	26.2	15 12.67	2 38.243	+ 1 21.59	− 31.154
	Egeria	20.8	34.0	48.0	16 34.26	3 39.461		
	B. Z., 530, 104	46 8	0.2	14.0	18 0.33	2 38.219	+ 1 21.67	− 31.052
	Egeria	8.5	22.3	35.2	19 22.00	3 39.335		
	B. Z., 530, 104	21.7	35.0	49.0	20 35.23	2 38.142	+ 1 22.20	− 31.114
	Egeria	44.3	57.0	11.0	21 57.43	3 39.320		
	B. Z., 530, 104	31.9	45.9	59.6	24 45.80	2 38.249	+ 1 22.63	− 30.896
	Egeria	55.2	8.2	21.9	26 8.43	3 39.209		

RESULTS.

Corr. Chron. + 0 m. s. 47.12

	a (h. m. s.)	δ (° ′ ″)
845 Rumker,	3 13 22.49	+24 12 39.76
849 Rumker,	3 15 29.82	+24 11 26.79

Egeria—845 Rumker,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	7 34 1.86	+ 0 42.82	+16 35.49
Δt		+ .11	
Δρ		+ .01	+ .49
p		+ .15	+ 1.30

Egeria—849 Rumker,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	7 34 1.86	− 1 23.93	+17 46.11
Δt		− .23	
Δρ		+ .01	+ .52
p		+ .15	+ 1.30

Corr. Chron. + 0 m. s. 47.38

	a (h. m. s.)	δ (° ′ ″)
B. Z., 530, 104,	3 16 20.83	+24 54 20.20

Egeria—B. Z., 530, 104,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	7 34 39.52	+ 1 23.13	− 7 53.29
Δt		+ .33	
Δρ		− .01	− .24
p		+ .15	+ 1.30

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Mar. 28	B. Z., 530, 104	23.1	36.2	49.6	7 27 36.30	2 38.149	+ 1 23.30	— 30.857	
	Egeria	46.2	59.6	13.0	28 59.60	3 39.070			
	B. Z., 530, 104	55.5	9.0	22.7	31 9.07	2 38.128	+ 1 23.00	— 30.787	
	Egeria	18.2	32.0	46.0	32 32.07	3 38.979			
	B. Z., 530, 104	5.2	18.2	32.2	34 18.53	2 38.061	+ 1 23.47	— 30.863	
	Egeria	29.0	42.0	55.0	35 42.00	3 38.988			
	B. Z., 530, 104	51.0	4.3	18.1	38 4.47	2 37.980	+ 1 23.26	— 30.715	
	Egeria	14.2	28.0	41.0	39 27.73	3 38.759			
	B. Z., 530, 104	43.0	57.1	10.2	40 56.77	2 37.897	+ 1 23.70	— 30.669	
	Egeria	7.0	20.4	34.0	42 20.47	3 38.630			
	B. Z., 530, 104	21.7	35.3	49.0	43 35.33	2 37.950	+ 1 24.04	— 30.505	
	Egeria	46.0	59.1	13.0	44 59.37	3 38.519			
	B. Z., 530, 104	39.2	53.2	6.2	46 52.80	2 37.592	+ 1 24.57	— 30.639	
	Egeria	3.9	17.2	31.0	48 17.37	3 38.295			
	B. Z., 530, 104	21.2	34.8	48.0	49 34.67	2 37.781	+ 1 24.33	— 30.405	
	Egeria	46.0	59.0	12.0	50 59.00	3 38.250			
	B. Z., 530, 104	56.0	9.6	23.0	52 9.53	2 37.909	+ 1 24.47	— 30.236	
	Egeria	20.9	34.1	47.0	53 34.00	3 38.209			
Apr. 6	B. Z., 396, 35	53.0	7.0	- -	7 26 7.11	2 39.860	+ 0 10.21	— 13.758	m. s. Corr. Chron. + 0 43.88
	Egeria	- -	17.2	31.0	26 17.32	2 53.618			
	B. Z., 396, 35	17.0	31.0	- -	29 31.11	2 38.602	+ 0 11.39	— 13.668	
	Egeria	28.0	- -	55.0	29 42.50	2 52.270			
	B. Z., 396, 35	56.2	10.0	- -	32 10.11	2 38.702	+ 0 11.64	— 13.568	
	Egeria	9.0	- -	34.5	32 21.75	2 52.270			
	B. Z., 396, 35	37.5	51.5	- -	35 51.61	2 38.725	+ 0 10.50	— 13.435	
	Egeria	- -	2.0	16.0	36 2.11	2 52.160			
	B. Z., 396, 35	52.0	6.0	20.0	39 6.00	2 38.468	+ 0 10.11	— 13.420	
	Egeria	- -	17.0	31.0	39 17.11	2 51.888			
	B. Z., 396, 35	35.2	49.5	4.0	42 49.57	2 38.462	+ 0 10.80	— 13.439	
	Egeria	47.0	0.0	14.0	43 0.37	2 51.901			
	B. Z., 396, 35	51.0	5.0	19.5	46 5.17	2 38.530	+ 0 11.66	— 13.091	
	Egeria	3.0	17.0	30.5	46 16.83	2 51.621			
	B. Z., 396, 35	17.5	- -	45.0	48 31.25	2 38.341	+ 0 11.75	— 13.308	
	Egeria	29.0	- -	57.0	48 43.00	2 51.649			
	B. Z., 396, 35	13.0	-	40.6	50 26.80	2 38.245	+ 0 11.70	— 13.306	
	Egeria	25.0	- -	52.0	50 38.50	2 51.551			
	B. Z., 396, 35	37.0	- -	4.7	52 50.85	2 38.112	+ 0 12.25	— 13.378	
	Egeria	49.2	- -	17.0	53 3.10	2 51.490			
	B. Z., 396, 35	19.0	- -	46.9	57 32.95	2 38.033	+ 0 12.90	— 13.197	
	Egeria	32.5	- -	59.2	57 45.85	2 51.230			
	B. Z., 396, 35	9.5	- -	37.2	8 0 23.35	2 37.830	+ 0 13.15	— 13.232	
	Egeria	23.0	- -	50.0	0 36.50	2 51.062			
	B. Z., 396, 35	19.0	- -	46.5	3 32.75	2 37.750	+ 0 12.75	— 13.001	
	Egeria	32.0	- -	59.0	3 45.50	2 50.751			

	α	δ
	h. m. s.	° ′ ″
B. Z., 396, 35,	3 33 29.50	+26 5 26.88

Egeria—B. Z., 396, 35,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 49 5.59	+ 0 11.90	— 3 24.58
	Δt	+ .03	
	Δρ	— .01	— .14
	p	+ .16	+ 1.37

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. April 6	B. Z., 396, 35	19.2	-	47.0	8 6 33.10	2 37.469	+ 0 13.40	— 13.121
	Egeria	33.0	-	0.0	6 46.50	2 50.590		
	B. Z., 396, 35	42.0	-	9.0	9 55.50	2 37.560	+ 0 13.25	— 12.730
	Egeria	55.0	-	22.5	10 8.75	2 50.290		
9	Egeria	21.0	-	49.0	7 53 35.00	1 35.712		
	B. Z., 396, 45	26.5	-	53.5	53 40.00	3 49.256	— 0 5.00	+ 73.659
	Egeria	50.0	-	18.0	57 4.00	1 35.498		
	B. Z., 396, 45	55.0	-	22.5	57 8.75	3 49.080	— 0 4.75	+ 73.697
	Egeria	29.0	-	57.0	8 0 43.00	1 35.150		
	B. Z., 396, 45	33.0	-	1.0	0 47.00	3 48.919	— 0 4.00	+ 73.884
	Egeria	58.0	-	26.0	2 12.00	1 34.950		
	B. Z., 396, 45	2.5	-	29.5	3 16.00	3 48.905	— 0 4.00	+ 74.070
	Egeria	28.0	-	54.0	6 41.00	1 34.666		
	B. Z., 396, 45	31.5	-	59.0	6 45.25	3 48.730	— 0 4.25	+ 74.179
	Egeria	29.0	-	57.0	9 43.00	1 34.782		
	B. Z., 396, 45	33.0	-	0.2	9 46.60	3 48.528	— 0 3.60	+ 73.861
	Egeria	33.0	-	0.0	13 46.50	1 34.449		
	B. Z., 396, 45	36.0	-	3.5	13 49.75	3 48.450	— 0 3.25	+ 74.116
	Egeria	40.5	-	8.0	17 54.25	1 33.888		
	B. Z., 396, 45	43.0	-	11.0	17 57.00	3 48.250	— 0 2.75	+ 74.477
	Egeria	29.0	-	56.0	23 42.50	1 33.739		
	B. Z., 396, 45	31.0	-	59.0	23 45.00	3 47.750	— 0 2.50	+ 74.126
	Egeria	0.0	-	27.5	26 13.75	1 33.290		
	B. Z., 396, 45	1.2	-	29.2	26 15.00	3 47.551	— 0 1.25	+ 74.376
11	B. Z., 396, 48	16.4	30.2	44.0	7 26 30.20	2 43.829	+ 1 11.47	— 19.200
	Egeria	28.0	42.0	55.0	27 41.67	1 54.808		
	B. Z., 396, 48	19.0	33.0	47.0	32 33.00	2 43.745	+ 1 12.52	— 19.252
	Egeria	32.0	45.5	-	33 45.52	1 54.672		
	B. Z., 396, 48	6.8	20.2	34.0	36 20.33	2 43.751	+ 1 12.24	+ 19.270
	Egeria	19.2	32.5	46.0	37 32.57	1 54.660		
	B. Z., 396, 48	2.5	16.2	30.0	39 16.23	2 43.618	+ 1 12.80	+ 19.177
	Egeria	15.0	29.1	43.0	40 29.03	1 54.620		
	B. Z., 396, 48	57.0	11.0	24.0	42 10.67	2 43.709	+ 1 12.40	+ 19.427
	Egeria	9.2	23.0	37.0	43 23.07	1 54.461		
	B. Z., 396, 48	0.3	13.5	28.3	45 14.03	2 43.521	+ 1 13.19	+ 19.469
	Egeria	-	27.2	41.0	46 27.22	1 54.231		
	B. Z., 396, 48	17.3	30.5	44.0	48 30.60	2 43.381	+ 1 12.57	+ 19.525
	Egeria	29.5	43.0	57.0	49 43.17	1 54.035		
	B. Z., 396, 48	36.0	49.5	3.5	51 49.33	2 43.360	+ 1 13.84	+ 19.639
	Egeria	49.5	3.0	17.0	53 3.17	1 53.900		
	B. Z., 396, 48	52.8	6.5	20.0	56 6.43	2 43.150	+ 1 14.09	+ 19.689
	Egeria	7.0	20.5	-	57 20.52	1 53.640		
	B. Z., 396, 48	27.8	41.0	55.0	59 41.27	2 43.058	+ 1 14.06	+ 19.754
	Egeria	42.0	55.0	9.0	8 0 55.33	1 53.483		

RESULTS.

Corr. Chron. + 0 m. 42.40 s.

	α	δ
B. Z., 396, 45,	3 h. 39 m. 18.28 s.	+26° 7′ 23.48″

Egeria—B. Z., 396, 45,

		Δα	Δδ
M. T.	8 h. 9 m. 51.90 s.	— 0 m. 3.54 s.	+18′ 58.03″
	Δt	— .01	
	Δρ	— .06	+ 1.19
	p	+ .16	+ .46

Corr. Chron. + 0 h. 42.78 s.

	α	δ
B. Z., 396, 48,	3 h. 41 m. 45.39 s.	+26° 37′ 8.01″

Egeria—B. Z., 396, 48,

		Δα	Δδ
M. T.	7 h. 45 m. 44.91 s.	+ 1 m. 12.92 s.	+ 4′ 58.78″
	Δt	+ .19	
	Δρ	— .01	+ .21
	p	+ .16	+ 1.37

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
April 11	B. Z., 396, 48	2.0	15.5	29.4	9 25 15.64	2 42.179		
	Egeria	15.9	29.7	43.8	26 29.77	1 52.568	+ 1 14.13	+ 19.790
	B. Z., 396, 48	32.9	46.5	0.2	27 46.55	2 42.101		
	Egeria	47.6	1.8	15.5	29 1.63	1 52.311	+ 1 15.08	+ 19.969
	B. Z., 396, 48	0.9	14.8	28.6	30 14.78	2 41.928		
	Egeria	15.8	29.6	43.6	31 29.68	1 52.292	+ 1 14.90	+ 19.815
	B. Z., 396, 48	41.2	54.9	8.8	32 54.98	2 41.749		
	Egeria	56.7	10.5	24.4	34 10.54	1 51.934	+ 1 15.56	+ 19.994
18	Egeria	4.0	17.0	31.0	7 43 17.33	2 24.818		
	B. Z., 397, 35	6.2	19.5	33.0	43 19.57	3 24.673	— 0 2.24	+ 29.791
	Egeria	33.0	47.0	1.0	45 47.00	2 24.538		
	B. Z., 397, 35	35.0	49.0	3.0	45 49.00	3 24.505	— 0 2.00	+ 29.903
	Egeria	35.0	49.0	2.0	47 48.67	2 24.450		
	B. Z., 397, 35	37.0	50.5	4.0	47 50.50	3 24.521	— 0 1.83	+ 30.007
	Egeria	24.0	38.5	52.0	49 38.17	2 24.303		
	B. Z., 397, 35	26.0	40.0	53.8	49 39.93	3 24.452	— 0 1.76	+ 30.085
	Egeria	59.0	13.0	27.0	52 13.00	2 24.241		
	B. Z., 397, 35	1.0	14.2	28.5	52 14.57	3 24.350	— 0 1.57	+ 30.045
	Egeria	55.0	9.0	23.0	54 9.00	2 23.951		
	B. Z., 397, 35	56.0	10.0	23.5	54 9.83	3 24.219	— 0 0.83	+ 30.204
	Egeria	52.0	6.0	20.0	56 6.00	2 23.882		
	B. Z., 397, 35	52.5	6.0	20.0	56 6.17	3 24.198	— 0 0.17	+ 30.252
	Egeria	21.0	36.0	49.0	59 35.33	2 23.821		
	B. Z., 397, 35	21.2	36.0	49.0	59 35.40	3 24.099	— 0 0.07	+ 30.214
	Egeria	52.0	6.0	20.0	8 2 6.00	2 23.395		
	B. Z., 397, 35	52.1	6.0	20.0	2 6.03	3 23.819	— 0 0.03	+ 30.360
	Egeria	55.2	9.0	23.2	4 9.13	2 23.472		
	B. Z., 397, 35	55.2	9.0	23.0	4 9.00	3 23.749	+ 0 0.13	+ 30.213
	Egeria	28.1	42.3	56.5	7 42.30	2 22.882		
	B. Z., 397, 35	28.0	42.0	56.0	7 42.00	3 23.538	+ 0 0.30	+ 30.592
	Egeria	36.3	50.5	4.3	12 50.37	2 22.361		
	B. Z., 397, 35	36.0	50.0	4.0	12 50.00	3 23.160	+ 0 0.37	+ 30.735
22	1104, Rumker	3.4	17.4	31.5	9 43 17.42	2 47.430		
	Egeria	1.1	15.1	28.7	44 14.97	2 38.234	+ 0 57.55	+ 9.196
	1104, Rumker	29.9	43.6	57.7	46 43.73	2 47.241		
	Egeria	27.5	41.3	55.3	47 41.35	2 38.069	+ 0 57.62	+ 9.172
	1104, Rumker	13.3	26.9	41.2	48 27.12	2 46.975		
	Egeria	.	24.4	38.5	49 24.44	2 37.905	+ 0 57.32	+ 9.070
	1104, Rumker	51.0	4.9	19.0	51 4.98	2 46.874		
	Egeria	48.8	2.9	17.0	52 2.88	2 37.628	+ 0 57.90	+ 9.246
	1104, Rumker	19.0	32.8	46.7	53 32.84	2 46.738		
	Egeria	16.5	30.8	44.9	54 30.73	2 37.362	+ 0 57.89	+ 9.376
	1104, Rumker	40.0	54.2	8.1	55 54.11	2 46.501		
	Egeria	38.6	52.3	6.5	56 52.45	2 37.300	+ 0 58.34	+ 9.201

RESULTS.

First use of Chronograph.

m. s.
Corr. Chron. + 0 30.36

	α	δ
	h. m. s.	° ′ ″
B. Z., 396, 48,	3 41 45.39	+26 37 8.01

Egeria—B. Z., 396, 48,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	9 30 48.27	+ 1 14.92	+ 5 5.73
	Δϱ	+ .02	+ .32
	p	+ .16	+ 1.48

m. s.
Corr. Chron. + 0 41.09

	α	δ
	h. m. s.	° ′ ″
B. Z., 397, 35,	3 56 20.51	+ 27 28 5.66

Egeria—B. Z., 397, 35,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 56 57.95	— 0 0.81	+ 7 44.16
	Δt	.00	
	Δϱ	+ .02	+ .46
	p	+ .16	+ 1.43

m. s.
Corr. Chron. + 0 47.39

	α	δ
	h. m. s.	° ′ ″
1104 Rumker,	4 3 7.38	+ 28 2 36.36

Egeria—1104 Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	10 5 14.27	+ 0 59.06	— 2 25.76
	Δϱ	— .01	— .20
	p	+ .16	+ 1.48

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
April 22	1104 Rumker	57.5	11.4	25.6	9 59 11.49	2 46.414	+ 0 58.85	+ 9.422	
	Egeria	56.4	10.3	24.3	10 0 10.34	2 36.992			
	1104 Rumker	21.0	35.0	49.0	1 34.95	2 46.509	+ 0 58.91	+ 9.661	
	Egeria	20.0	33.9	47.7	2 33.86	2 36.848			
	1104 Rumker	42.0	56.0	10.0	3 55.99	2 46.131	+ 0 59.32	+ 9.620	
	Egeria	41.4	55.3	9.2	4 55.31	2 36.511			
	1104 Rumker	17.3	31.3	45.2	6 31.25	2 45.889	+ 0 59.34	+ 9.421	
	Egeria	16.8	30.5	44.5	7 30.59	2 36.468			
	1104 Rumker	8.4	22.4	36.6	9 22.49	2 45.828	+ 0 59.67	+ 9.637	
	Egeria	8.2	22.1	36.2	10 22.16	2 36.191			
	1104 Rumker	48.8	2.0	16.0	13 2.26	2 45.418	+ 0 59.83	+ 9.669	
	Egeria	48.1	2.2	16.0	14 2.09	2 35.749			
	1104 Rumker	6.7	20.6	34.7	15 20.65	2 45.208	+ 1 0.11	+ 9.520	
	Egeria	6.7	20.8	34.8	16 20.76	2 35.688			
	1104 Rumker	10.6	24.4	38.4	18 24.44	2 45.005	+ 1 0.56	+ 9.874	
	Egeria	11.6	24.7	38.8	19 25.00	2 35.131			
	1104 Rumker	50.8	4.3	18.5	23 4.51	2 44.475	+ 1 0.61	+ 9.842	
	Egeria	51.1	5.1	19.2	24 5.12	2 34.633			
	1104 Rumker	42.9	56.8	10.9	25 56.85	2 44.090	+ 1 1.10	+ 9.812	
	Egeria	43.9	57.8	12.1	26 57.95	2 34.278			
29	B. Z., 397, 54	13.0	28.2	42.0	7 57 27.73	1 36.192	+ 1 47.27	— 67.512	
	Egeria	1.0	15.0	29.0	59 15.00	3 43.589			Corr. Chron. m. s. + 0 37.52
	B. Z., 397, 54	22.1	37.3	51.0	8 1 36.80	1 35.871	+ 1 47.20	— 67.712	
	Egeria	10.0	24.0	38.0	3 24.00	3 43.468			B. Z., 397, 54, a: h. m. s. 4 16 17.26; δ: +29° 10′ 42″.12
	B. Z., 397, 54	48.6	2.9	17.0	5 2.83	1 35.621	+ 1 47.67	— 67.466	Egeria—B. Z., 397, 54,
	Egeria	37.0	- -	4.0	6 50.50	3 42.972			
	B. Z., 397, 54	14.0	28.5	43.0	9 28.50	1 35.018	+ 1 48.42	— 67.488	
	Egeria	- -	17.0	31.0	11 16.92	3 42.391			
	B. Z., 397, 54	27.0	41.0	55.0	13 41.00	1 34.609	+ 1 48.33	— 67.225	
	Egeria	16.0	29.0	43.0	15 29.33	3 41.719			
	B. Z., 397, 54	5.7	20.0	34.2	20 19.97	1 33.583	+ 1 48.03	— 67.413	
	Egeria	54.0	8.0	22.0	22 8.00	3 40.881			
	B. Z., 397, 54	28.0	42.0	56.0	25 42.00	1 32.682	+ 1 50.00	— 67.024	
	Egeria	18.0	32.0	46.0	27 32.00	3 39.591			

		Δa (m. s.)	Δδ (′ ″)
M. T.	h. m. s. 8 12 54.06	+ 1 48.13	−17′ 16″.00
	Δt	+ 0.29	
	Δρ	− .14	− 2.06
	p	+ .16	+ 1.55

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ Mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 10	Venus	- - -	- - -	- - -	- - - -	- - -	- - -	- - -	The planet seen at 17h. 40m., but before any comparisons could be taken it was covered by a bank of clouds.
13	Venus S. F.	- -	2.0	- -	17 56 2.00	2 50.312			
	5839, B.A.C.	- -	- -	- -	- - - -	3 43.735	- - -	+ 23.293	
	Venus N. F.	- -	56.0	- -	57 56.00	2 47.131			
	5839, B.A.C.	- -	- -	- -	- - - -	3 43.968	- - -	+ 26.707	
	Venus S. F.	- -	41.0	- -	59 41.00	2 50.668			
	5839, B.A.C.	- -	- -	- -	- - - -	3 44.171	- - -	+ 23.373	
	Venus N. F.	- -	57.0	- -	18 0 57.00	2 47.340			
	5839, B.A.C.	- -	- -	- -	- - - -	3 44.168	- - -	+ 26.698	
	Venus S. F.	- -	33.0	- -	30 33.00	2 48.712			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.138	- - -	+ 23.296	
	Venus N. F.	- -	25.0	- -	32 25.00	2 45.613			A. 9. Bar. 30.190 in. Ther. Att. 69°.0 Int. 46.0 Ex. 40.0
	5839, B.A.C.	- -	- -	- -	- - -	3 42.065	- - -	+ 26.322	
	Venus S. F.	- -	8.0	-	34 8.00	2 48.852			
	5839, B.A.C.	- -	- -	-	- - - -	3 42.198	- -	+ 23.216	
	Venus N. F.	- -	32.0	-	35 32.00	2 45.841			From the 5th comparison to the end taken without illumination of the wires. All these are satisfactory. During the 4 first the planet was ill-defined.
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.202	- - -	+ 26.171	
	Venus S. F.	- -	58.0	- -	36 58.00	2 49.010			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.291	- -	+ 23.151	
	Venus N. F.	- -	17.0	- -	38 17.00	2 45.830			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.370	- - -	+ 26.410	
	Venus S. F.	-	25.0	- -	40 25.00	2 49.190			
	5839, B.A.C.	- -	- -	- -	- -	3 42.462	- - -	+ 23.142	
	Venus N. F.	- -	48.0	- -	41 48.00	2 46.049			
	5839, B.A.C.	- -	- -	- -	- - -	3 42.510	- - -	+ 26.331	
	Venus F.	8.5	21.5	34.7	43 21.57				
	5839, B.A.C.	- -	51.0	3.7	43 50.82	- - -	− 0 29.25		
	Venus S. F.	- -	49.0	- -	44 49.00	2 49.329			
	5839, B.A.C.	- -	-	- -	- - - -	3 42.665	- - -	+ 23.206	
	Venus N. F.	- -	4.2	- -	46 4.20	2 46.105			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.470	- - -	+ 26.235	
	Venus F.	7.4	20 2	33.0	47 20.20				
	5839, B.A.C.	36.5	49.0	2.0	47 49.17	- - -	− 0 28.97		
	Venus S. F.	- -	38.5	- -	48 38.50	2 49.433			
	5839, B.A.C.	- -	- -	- -	- - -	3 42.731	- - -	+ 23.168	
	Venus N. F.	- -	57.0	- -	49 57.00	2 46.229			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.820	- - -	+ 26.461	
	Venus S. F.	- -	13.0	-	51 13.00	2 49.548			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.725	- - -	+ 23.047	
	Venus N. F.	- -	25.0	- -	52 25.00	2 46.340			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.831	- - -	+ 26.361	
	Venus S. F.	- -	52.5	- -	53 50.50	2 49.645			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.882	- - -	+ 23.107	
	Venus N. F.	- -	1.0	- -	55 1.00	2 46.891			
	5839, B.A.C.	- -	- -	- -	- - - -	3 42.820	- - -	+ 25.799	

Δa

Venus F.—5839, B.A.C., 4 Comp.,

	h. m. s.		m. s.
Mean Chron. T.	18 59 44.79		− 0 28.65
Corr. Chron.	+ 14.31	Δt −	.08
	18 59 59.10	$\Delta \varrho$ −	.02
		p −	1.12

$\Delta \delta$

Venus S.—5839 B.A.C., 12 Comp.,

	h. m. s.		revs.
Mean Chron. T.	18 38 0.10		+23.174
Corr. Chron.	+ 14.32		+ 5′ 56″.22
	18 38 14.42	$\Delta \varrho$ +	.59
		p +	17.70

Venus N.—5839, B.A.C., 12 Comp.,

			revs.
Mean Chron. T.	18 39 23.77		+26.333
Corr. Chron.	+ 14.32		+ 6′ 44″.77
	18 39 38.09	$\Delta \varrho$ +	.67
		p +	17.70

(Continued.)

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 13	Venus F.	16.2	28.9	41.0	18 56 28.70				
	5839, B.A.C.	44.0	57.0	10.0	56 57.00	- - -	— 0 28.30		
	Venus S. F.	-	25.0	- -	58 25.00	2 49.750			
	5839, B.A.C.	- -	- -	- -	- - -	3 42.910	- - -	+ 23.030	
	Venus N. F.	- -	51.0	- -	59 51.00	2 46.591			
	5839, B.A.C.	- -	- -	- -	- - -	3 42.960	- - -	+ 26.239	
	Venus S. F.	- -	18.2	-	19 1 18.20	2 49.868			
	5839, B.A.C.	- -	- -	- -	- - -	3 43.091	- - -	+ 23.093	
	Venus N. F.	- -	32.0	- -	2 32.00	2 46.710			
	5839, B.A.C.	- -	- -	- -	- - -	3 43.030	- - -	+ 26.190	
	Venus F.	36.0	48.2	1.0	19 31 48.40				
	5839, B.A.C.	- -	- -	29.2	32 16.60	- - -	— 0 28.20		
15	Venus S.	- -	17.3	- -	17 34 17.30	2 49.799			
	31543, Lalande	- -	- -	- -	- - - -	2 53.558	- - -	+ 3.759	
	Venus N.	- -	5.5	- -	36 5.50	2 46.708			
	31543, Lalande	- -	- -	- -	- - - -	2 53.639	- - -	+ 6.931	
	Venus S.	- -	22.2	- -	40 22.20	2 50.442			
	31543, Lalande	- -	- -	- -	- - - -	2 54.385	- - -	+ 3.943	
	Venus N.	- -	4.2	- -	41 4.20	2 47.333			
	31543, Lalande	- -	- -	- -	- - -	2 54.452	- - -	+ 7.119	
	Venus S.	- -	25.2	-	44 25.20	2 50.958			
	31543, Lalande	- -	- -	- -	- - - -	2 54.872	- - -	+ 3.914	
	Venus N.	- -	55.0	- -	45 55.00	2 47.929			
	31543, Lalande	- -	- -	- -	- - -	2 54.848	- - -	+ 6.919	
	Venus S.	- -	15.2	- -	47 15.20	2 51.310			
	31543, Lalande	- -	- -	- -	- - -	2 55.041	- - -	+ 3.731	
	Venus N.	-	39.2	- -	48 39.20	2 48.192			
	31543, Lalande	- -	- -	- -	- - - -	2 55.302	- - -	+ 7.110	
	Venus F.	36.2	49.2	2.0	17 50 49.13				
	31543, Lalande	58.0	11.0	24.0	51 11.00	- - -	— 0 21.87		
	Venus F.	2.2	15.2	29.0	54 14.80				
	31543, Lalande	24.0	37.0	50.0	54 37.00	- - -	— 0 22.20		
	Venus F.	12.5	25.7	39.0	55 25.73				
	31543, Lalande	34.3	47.2	0.5	55 47.33	- - -	— 0 21.60		
	Venus F.	35.2	48.3	1.0	56 48.17				
	31543, Lalande	57.0	- -	23.0	57 10.00	- - -	— 0 21.83		
	Venus S.	- -	3.7	-	58 3.70	2 51.731			
	31543, Lalande	- -	- -	- -	- - -	2 55.519	- - -	+ 3.788	
	Venus N.	- -	20.2	- -	59 20.20	2 48.650			
	31543, Lalande	- -	- -	- -	- - - -	2 55.721	- - -	+ 7.071	
	Venus S.	-	43.5	- -	18 0 43.50	2 52.049			
	31543, Lalande	- -	- -		- - - -	2 55.695	- - -	+ 3.646	
	Venus N.	- -	14.0	- -	2 14.00	2 48.788			
	31543, Lalande	- -	- -	- -	- - - -	2 55.936	- - -	+ 7.148	
	Venus S.	-	1.3	- -	9 1.30	2 52.175			
	31543, Lalande	- -	- -	- -	- - - -	2 56.022	- - -	+ 3.847	
	Venus N.	- -	23.0	-	10 23.00	2 49.190			
	31543, Lalande	- -	- -	- -	- - - -	2 56.062	- - -	+ 6.872	
	Venus S.	- -	51.2	- -	11 51.20	2 52.555			This comparison is the first at which the star was distinctly seen.
	31543, Lalande	- -	- -	- -	- - - -	2 56.231	- - -	+ 3.676	
	Venus N.	- -	3.0	- -	12 3.00	2 49.296			
	31543, Lalande	- -	- -	- -	- - - -	2 56.259	- - -	+ 6.963	

(Continued.)

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 15	Venus S.	- -	23.2	- -	18 13 23.20	2 52.790			in.
	31543, Lalande	- -	- -	- -	- -	2 56.342	- - -	+ 3.552	A. 6. Bar. 29.930 Ther. Att. 74°.0
	Venus N.	- -	15.0	- -	14 15.00	2 49.648			Int. 53.0
	31543, Lalande	- -	- -	- -	- - - -	2 56.572	- - -	+ 6.924	Ex. 46.0
	Venus S.	- -	14.2	- -	15 14.20	2 52.865			
	31543, Lalande	- -	- -	- -	- - - -	2 56.700	- - -	+ 3.835	
	Venus N.	- -	9.2	- -	16 9.20	2 49.810			
	31543, Lalande	- -	- -	- -	- - - -	2 56.759	- - -	+ 6.949	
	Venus F.	49.5	2.7	16.0	19 2.73				
	31543, Lalande	- -	23.2	36.0	19 22.98	- - -	— 0 20.25		
	Venus F.	0.9	13.8	26.9	20 13.53				
	31543, Lalande	- -	34.0	47.1	20 33.73	- - -	— 0 20.20		Throughout these comparisons the planet was flickering and undefined. The four last taken without illumination of the wires.
	Venus F.	12.4	25.1	38.0	21 25.17				
	31543, Lalande	32.0	45.1	58.0	21 45.03	- - -	— 0 19.86		
	Venus F.	19.2	31.7	45.0	22 31.96				
	31453, Lalande	39.0	51.5	4.1	22 51.53	- -	— 0 19 57		
	Venus S.	- -	8.0	- -	24 8.00	2 53.384			
	31543, Lalande	- -	- -	- -	- - -	2 57.030	- - -	+ 3.646	
	Venus N.	- -	47.0	- -	25 47.00	2 50.347			
	31543, Lalande	- -	- -	- -	- - - -	2 57.132	- - -	+ 6.785	Δa
	Venus S.	- -	1.0	- -	33 1.00	2 53.649			Venus F.—31543, Lalande, 12 Comp.,
	31543, Lalande	- -	- -	- -	- - - -	2 57.357	- - -	+ 3.708	h. m. s. m. s.
	Venus N.	- -	20.9	- -	34 20.90	2 50.648			Mean Chron. T. 18 20 38.60 — 0 20.081
	31543, Lalande	- -	- -	- -	- - - -	2 57.418	- - -	+ 6.770	Corr. Chron. + 15.12 Δt — .05
	Venus S.	- -	57.0	- -	35 57.00	2 53.839			18 20 53.72 Δρ — .01
	31543, Lalande	- -	- -	- -	- - - -	2 57.438	- - -	+ 3.599	p — .93
	Venus N.	- -	2.9	- -	37 2.90	2 50.839			Δδ
	31543, Lalande	- -	- -	- -	- - - -	2 57.558	- - -	+ 6.719	Venus S.—31543, Lalande, 16 Comp.,
	Venus S.	- -	29.2	- -	38 29.20	2 53.978			h. m. s. revs.
	31543, Lalande	- -	- -	- -	- - - -	2 57.562	- -	+ 3.584	Mean Chron. T. 18 12 24.25 + 3.711
	Venus N.	- -	27.2	- -	39 27.20	2 50.803			Corr. Chron. + 15.12 + 0′ 57″.04
	31543, Lalande	- -	- -	- -	- - - -	2 57.528	- -	+ 6.725	18 12 39.37 Δρ + .11
	Venus S.	- -	1.8	- -	42 1.80	2 54.008			p + 0 16.78
	31543, Lalande	- -	- -	- -	- - - -	2 57.712	- - -	+ 3.704	Venus N.—31543, Lalande, 16 Comp.,
	Venus N.	-	18.2	- -	43 18.20	2 50.975			h. m. s. revs.
	31543, Lalande	- -	- -	- -	- - - -	2 59.631	- - -	+ 6.656	Mean Chron. T. 18 13 35.46 + 6.879
	Venus F.	28.2	41.0	54.0	44 41.07				Corr. Chron. + 15.12 + 1′ 45″.74
	31543, Lalande	- -	59.0	12.5	44 59.32	- - -	— 0 18.25		18 13 50.58 Δρ + .18
	Venus F.	43.9	57.0	9.6	45 56.83				p + 0 16.78
	31543, Lalande	2.0	14.8	28.1	46 14.97	- - -	— 0 18.14		
	Venus F.	19.5	32.3	45.2	47 32.33				
	31543, Lalande	- -	- -	4.2	47 51.33	- - -	— 0 19.00		
	Venus F.	49.2	1.2	14.8	49 1.73				
	31543, Lalande	7.0	19.8	33.0	49 19.93	- - -	— 0 18.20		
	Venus S.	- -	14.0	- -	50 14.00	2 54.209			
	31543, Lalande	- -	- -	- -	- - - -	2 57.655	- - -	+ 3.446	
	Venus N.	-	23.0	- -	51 23.00	2 51.022			
	31543, Lalande	- -	- -	- -	- - -	2 57.739	- - -	+ 6.717	
									in.
									A. 5. Bar. 30.350 Ther. Att. 70°.0
24	8219, Taylor	- -	- -	- -	- - - -	2 33.075	- - -	— 3.066	Int. 42.0
	Venus S.	- -	44.0	.	17 59 44.00	3 36.141			Ex. 30.0
	8219, Taylor	- -	- -	- -	- - -	2 33.172	- - -	+ 0.433	(Continued.)
	Venus N.	- -	51.5	- -	18 0 51.50	2 33.605			

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 24	8219, Taylor	- -	- -	- -	- - - -	2 33.165	- -	— 3.164	Planet very restless, and star of comparison dimly seen. The star used may not be the star of the catalogue. It was taken as the brightest in the vicinity.
	Venus S.	-	2.0	- -	18 2 2.00	2 36.329			
	8219, Taylor	- -	- -	- -	- - - -	2 33.210	- - -	— 0.475	
	Venus N.	- -	59.0	- -	3 59.00	2 33.685			
	8219, Taylor	- -	- -	- -	- - - -	2 33.252	- - -	— 3.167	
	Venus S.	- -	21.0	- -	5 21.00	2 36.419			
	8219, Taylor	- -	- -	- -	- - - -	2 33.312	- - -	— 0.398	
	Venus N.	- -	20.0	- -	6 20.00	2 33.710			
	8219, Taylor	- -	- -	-	- - - -	2 33.581	- - -	— 3.037	
	Venus S.	- -	59.0	- -	7 59.00	2 36.618			
	8219, Taylor	- -	- -	- -	- - - -	2 33.489	- - -	— 0.431	
	Venus N.	- -	3.0	- -	9 3.00	2 33.920			
	8219, Taylor	56.0	9.0	.	10 9.17	- - -	+ 0 20.70		
	Venus F.	16.9	29.5	43.2	10 29.87				
	8219, Taylor	13.0	26.0	- -	11 25.97	- - -	+ 0 21.30		
	Venus F.	34.3	47.3	0.2	11 47.27				
	8219, Taylor	34.7	47.5	- -	13 47.58	- - -	+ 0 21.45		
	Venus F.	56.0	9.1	22.0	14 09.03				
	8219, Taylor	46.0	59.2	- -	14 59.03	- - -	+ 0 22.00		
	Venus F.	8.2	21.0	33.9	15 21.03				

Δa

Venus F.—8219, Taylor, 4 Comp.,

		h. m. s.		m. s.
Mean Chron. T.		18 12 56.80		+ 0 21.36
Corr. Chron.	+	19.19	Δt —	.05
		18 13 15.99	$\Delta \varrho$	.00
			p —	.78

$\Delta \delta$

Venus S.—8219, Taylor, 4 Comp.,

		h. m. s.		revs.
Mean Chron. T.		18 3 46.50		— 3.108
				′ ″
Corr. Chron.	+	19.19		— 0 47.77
		18 4 5.69	$\Delta \varrho$ —	.09
			p +	14.65

Venus N.—8219, Taylor, 4 Comp.,

		h. m. s.		revs.
Mean Chron. T.		18 5 3.37		— 0.434
Corr. Chron.	+	19.19		— 0 6.67
		18 5 22.56	$\Delta \varrho$ —	.01
			p +	14.65

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 13	Metis	1.5	15.0	28.0	15 0 14.83	1 58.052		
	B. Z., 275, 106	17.0	30.0	43.0	2 30.00	3 50.038	— 2 15.17	+ 52.075
	Metis	18.0	30.5	44.0	5 30 83	1 58.388		
	B. Z., 275, 106	33.5	47.0	59.5	7 46.67	3 50.691	— 2 15.84	+ 52.392
	Metis	42.0	55.0	8.0	9 55.00	1 58.299		
	B. Z., 275, 106	58.0	11.0	24.0	12 11.00	3 50.678	— 2 16.00	+ 52.468
	Metis	22.0	34.6	48.0	15 34.87	1 58.419		
	B. Z., 275, 106	38.0	51.0	4.0	17 51.00	3 50.700	— 2 16.13	+ 52.370
	Metis	5.0	18.0	31.0	46 18.00	1 57.821		
	B. Z., 275, 106	22.0	35.0	48.2	48 35.07	3 50.420	— 2 17.07	+ 52.688
	Metis	7.8	21.0	34.0	53 20.93	1 57.720		
	B. Z., 275, 106	25.0	38.0	51.0	55 38.00	3 50.789	— 2 17.07	+ 53.158
	Metis	37.5	51.0	4.0	59 50.83	1 56.551		
	B. Z., 275, 106	55.0	8.0	21.3	16 2 8.10	3 49.440	— 2 17.27	+ 52.978
	Metis	42.1	55.5	8.0	4 55.20	1 56.416		
	B. Z., 275, 106	0.0	13.0	26.0	7 13.00	3 49.379	— 2 17.80	+ 53.052
	Metis	12.0	25.3	38.3	8 25.20	1 56.462		
	B. Z., 275, 106	29.3	43.0	56.0	10 42.77	3 49.445	— 2 17.57	+ 53.072
	Metis	51.3	4.7	18.0	13 4.67	1 56.374		
	B. Z., 275, 106	9.3	23.0	35.0	15 22.43	3 49.425	— 2 17.76	+ 53.140
	Metis	39.2	52.2	5.0	20 52.13	1 56.259		
	B. Z., 275, 106	57.2	11.0	24.0	23 10.73	3 49.571	— 2 18.60	+ 53.401
15	Metis	1.0	- -	27.0	16 47 14.00	1 51.779		
	(• 4) W.	10.5	- -	37.0	47 24.10	3 43.469	— 0 10.10	+ 51.779
	Metis	0.3	- -	27.0	52 13.65	1 51.878		
	(• 4) W.	10.5	- -	37.0	52 23.75	3 43.500	— 0 10.10	+ 51.711
	Metis	0.2	13.0	26.2	54 13.13	1 51.908		
	(• 4) W.	10.0	23.0	- -	54 23.70	3 43.614	— 0 10.57	+ 51.795
	Metis	0.0	- -	26.2	56 13.10	1 51.865		
	(• 4) W.	10.0	- -	37.2	56 23.60	3 43.492	— 0 10.50	+ 51.716
	Metis	1.0	14.2	27.0	58 14.07	1 51.759		
	(• 4) W.	11.0	24.0	37.2	58 24.07	3 43.542	— 0 10.00	+ 51.872
	Metis	16.2	29.3	42.0	17 0 29.17	1 51.675		
	(• 4) W.	26.2	- -	53.0	0 39.50	3 43.459	— 0 10.33	+ 51.873
	Metis	49.2	- -	15.2	4 2.10	1 51.572		
	(• 4) W.	59.2	- -	26.0	4 12.60	3 43.455	— 0 10.50	+ 51.972
	Metis	35.9	49.0	2.5	5 49.13	1 51.648		
	(• 4) W.	46.2	59.0	12.9	5 59.37	3 43.538	— 0 10.24	+ 51.979
Feb. 22	Metis	53.0	7.0	20.0	9 53 6.67	1 53.901		
	B. Z., 345, 44	- -	37.0	51.3	53 37.06	3 30.428	— 0 30.39	+ 36.644
	Metis	25.2	39.0	52.0	57 38.73	2 23.599		
	B. Z., 345, 44	- -	9.0	23.0	58 9.06	3 30.371	— 0 30.33	+ 36.708
	Metis	19.2	32.5	46.0	10 1 32.57	2 23.382		
	B. Z., 345, 44	- -	3.2	17.0	2 3.26	3 30.322	— 0 30.69	+ 36.876

RESULTS.

Corr. Chron. + 0 m. s. 14.26

	a (h. m. s.)	δ (° ′ ″)
B. Z., 275, 106,	10 1 46.00	+21 3 32.68

Metis—B. Z., 275, 106,

		Δa (m. s.)	Δδ (′ ″)
M. T.	15 43 41.76	— 2 16.94	+13 31.50
	Δt	— .38	
	Δϱ	.00	+ .25
	p	+ 11	+ 2.04

Corr. Chron. + 0 m. s. 14.97

	a (h. m. s.)	δ (° ′ ″)
(• 4) W.,	9 57 46.52	+21 17 32.06

Metis—(• 4) W.,

		Δa (m. s.)	Δδ (′ ″)
M. T.	16 57 33.51	— 0 10.29	+13 16.71
	Δt	— .03	
	Δϱ	.00	+ .27
	p	.23	+ 2.32

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 22	Metis	40.2	53.0	7.0	10 4 53.40	2 23.479		
	B. Z., 345, 44	- -	25.2	39.0	5 25.86	3 30.289	− 0 32.46	+ 36.746
	Metis	0.2	13.0	27.0	10 13.40	2 23.250		
	B. Z., 345, 44	- -	45.0	59.2	10 45.06	3 30.218	− 0 31.66	+ 36.904
	Metis	53.2	7.2	21.0	17 7.13	2 17.920		
	B. Z., 345, 44	- -	39.0	52.0	17 39.06	3 24.866	− 0 31.93	+ 36.882
	Metis	57.5	11.0	26.0	23 11.50	2 18.018		
	B. Z., 345, 44	- -	43.5	57.0	23 43.56	3 24.982	− 0 32.06	+ 36.900
	Metis	28.0	41.0	55.0	55 41.33	2 22.058		
	B. Z., 345, 44	- -	15.0	29.0	56 15.06	3 29.408	− 0 33.73	+ 37.286
Mar. 1	3194 B.A.C.	6.1	19.5	33.5	9 19 19.70	1 27.682	+ 1 43.03	− 79.685
	Metis	49.1	3.0	16.1	21 2.73	3 47.252		
	3194 B.A.C.	39.7	53.1	7.1	22 53.30	1 27.610	+ 1 43.07	− 79.714
	Metis	23.1	36.0	50.0	24 36.37	3 47.209		
	3194 B.A.C.	52.0	5.0	19.2	27 5.40	1 27.589	+ 1 42.93	− 79.697
	Metis	35.0	48.0	2.0	28 48.33	3 47.171		
	3194 B.A.C.	56.0	9.7	23.8	32 9.83	1 27.567	+ 1 42.90	− 79.709
	Metis	39.0	53.0	6.2	34 52.73	3 47.161		
	3194 B.A.C.	49.1	2.3	16.2	37 2.53	1 27.574	+ 1 42.59	− 79.903
	Metis	- -	45.0	58.0	38 45.12	3 47.362		
	3194 B.A.C.	49.7	3.0	17.1	42 3.27	1 27.632	+ 1 42 03	− 79.552
	Metis	31.5	45.4	59.0	43 45.30	3 47.069		
	3194 B.A.C.	41.0	55.0	9.2	45 55.07	1 27.608	+ 1 42.46	− 79.695
	Metis	24.0	37.4	51.2	47 37.53	3 47.188		
	3194 B.A.C.	4.2	18.0	31.7	50 17.97	1 27.581	+ 1 42.20	− 79.636
	Metis	46.5	0.0	14.0	52 0.17	3 47.102		
	3194 B.A.C.	28.1	41.0	55.0	10 21 41.37	1 27.615	+ 1 41.75	− 79.435
	Metis	- -	23.0	36.2	23 23.12	3 46.935		
	3194 B.A.C.	29.3	43.0	57.0	27 43.10	1 27.482	+ 1 40.67	− 79.563
	Metis	10.0	24.0	37.3	29 23.77	3 46.930		
2	3194 B.A.C.	5.2	18.9	32.3	8 55 18.80	1 29.921	+ 0 59.87	− 74.985
	Metis	5.0	19.0	32.0	56 18.67	3 44.791		
	3194 B.A.C.	42.0	56.1	9.7	58 55.97	1 29.806	+ 1 0.23	− 74.987
	Metis	42.9	56.0	9.7	59 56.20	3 44.678		
	3194 B.A.C.	14.0	28.0	41.7	9 1 27.90	1 29.751	+ 1 0.03	− 74.949
	Metis	14.0	28.1	41.7	2 27.93	3 44.585		
	3194 B.A.C.	50.0	4.0	17.9	3 3.97	1 29.646	+ 1 0.10	− 75.097
	Metis	50.5	4.0	17.7	4 4.07	3 44.628		
	3194 B.A.C.	3.1	17.2	31.0	6 17.10	1 29.750	+ 0 59.63	− 74.836
	Metis	3.0	17.0	30.2	7 16.73	3 44.471		
	3194 B.A.C.	17.6	31.3	45.1	8 31.33	1 29.776	+ 1 0.04	− 74.831
	Metis	18.1	31.0	45.0	9 31.37	3 44.492		
	3194 B.A.C.	47.9	1.7	15.0	11 1.53	1 29.739	+ 0 59.97	− 74.893
	Metis	48.1	1.2	15.2	12 1.50	3 44.517		
	3194 B.A.C.	57.1	11.3	25.1	13 11.17	1 29.698	+ 0 59.80	− 74.917
	Metis	57.2	11.0	24.7	14 10.97	3 44.500		

RESULTS.

B. Z., 345, 44,
Corr. Chron. + 0 m. s. 36.52
a: h. m. s. 9 22 56.30; δ: ° ′ ″ +25 3 55.93

Metis—B. Z., 345, 44,

	h. m. s.	Δa m. s.	Δδ ′ ″
M. T.	10 13 32.11	− 0 31.66	+ 9 26.65
Δt		− .08	
Δϱ		.00	+ .17
p		− .09	+ 1.57

3194 B.A.C.,
Corr. Chron. + 0 m. s. 38.93
a: h. m. s. 9 14 54.67; δ: ° ′ ″ +25 48 55.71

Metis—3194 B.A.C.,

	h. m. s.	Δa m. s.	Δδ ′ ″
M. T.	9 47 4.45	+ 1 42.36	−20 24.33
Δt		+ .27	
Δϱ		.00	− .37
p		− .08	+ 1.47

3194 B.A.C.,
Corr. Chron. + 0 m. s. 39.83
a: h. m. s. 9 14 54.66; δ: ° ′ ″ +25 48 55.79

Metis—3194 B.A.C.,

	h. m. s.	Δa m. s.	Δδ ′ ″
M. T.	9 8 50.55	+ 0 59.89	−19 11.48
Δt		+ .16	
Δϱ		.00	− .34
p		− .13	+ 1.56

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 2	3194 B.A.C.	36.0	49.8	3.7	9 15 49.83	1 29.671	+ 0 59.60	− 74.916
	Metis	36.1	49.0	3.2	16 49.43	3 44.472		
	3194 B.A.C.	57.1	11.0	24.0	8 18 10.70	1 29.672	+ 0 59.67	− 74.778
	Metis	57.0	10.0	24.0	19 10.37	3 44.335		
21	Metis	20.0	33.3	47.3	10 17 33.53	2 36.880		
	B. Z., 347, 40	27.2	40.9	54.5	17 40.87	2 37.936	− 0 7.34	+ 1.056
	Metis	17.2	30.2	44.0	19 30.47	2 36.912		
	B. Z., 347, 40	23.9	37.5	51.2	19 37.53	2 37.812	− 0 7.06	+ 0.900
	Metis	57.2	10.3	24.1	21 10.53	2 36.822		
	B. Z., 347, 40	4.0	17.4	31.0	21 17.47	2 37.829	− 0 6.94	+ 1.007
	Metis	39.2	53.0	6.5	22 52.90	2 36.848		
	B. Z., 347, 40	47.1	0.3	14.2	23 0.53	2 37.889	− 0 7.63	+ 1.041
	Metis	16.2	. .	43.0	24 29.60	2 36.973		
	B. Z., 347, 40	23.5	37.2	50.7	24 37.13	2 37.915	− 0 7.53	+ 0.942
	Metis	2.1	15.2	29.0	26 15.43	2 37.008		
	B. Z., 347, 40	9.7	23.2	36.5	26 23.13	2 37.818	− 0 7.70	+ 0.810
	Metis	17.8	31.0	44.7	28 31.17	2 37.222		
	B. Z., 347, 40	25.0	39.0	52.0	28 38.67	2 37.771	− 0 7.50	+ 0.549
	Metis	11.5	25.0	38.5	30 25.00	2 37.058		
	B. Z., 347, 40	19.2	32.0	46.2	30 32.47	2 37.890	− 0 7.47	+ 0.832
	Metis	28.0	41.0	55.0	32 41.33	2 37.149		
	B. Z., 347, 40	35.1	49.4	2.5	32 49.00	2 37.943	− 0 7.67	+ 0.794
	Metis	13.2	26.0	40.0	34 26.40	2 37.138		
	B. Z., 347, 40	20.7	34.2	47.7	34 34.20	2 37.888	− 0 7.80	+ 0.750
	Metis	1.0	14.9	28.3	37 14.73	2 37.078		
	B. Z., 347, 40	8.5	22.0	35.9	37 22.13	2 37.972	− 0 7.40	+ 0.894
	Metis	53.0	6.5	20.3	39 6.60	2 37.165		
	B. Z., 347, 40	0.5	14.6	28.1	39 14.40	2 37.928	− 0 7.80	+ 0.763
24	Metis	5.0	. .	32.0	9 18 18.50	3 33.192		
	B. Z., 347, 40	22.0	. .	49.7	18 35.85	2 32.643	− 0 17.35	− 30.485
	Metis	36.2	50.0	4.2	21 50.13	3 32.908		
	B. Z., 347, 40	54.0	7.0	21.2	22 7.40	2 32.519	− 0 17.27	− 30.325
	Metis	56.2	10.0	23.7	24 9.97	3 32.929		
	B. Z., 347, 40	14.0	27.0	41.2	24 27.40	2 32.504	− 0 17.43	− 30.361
	Metis	47.0	1.0	14.7	28 0.90	3 33.008		
	B. Z., 347, 40	4.2	18.0	32.5	28 18.23	2 32.483	− 0 17.33	− 30.461
April 3	B. Z., 345, 34	27.1	39.5	53.0	9 22 39.87	3 41.698	+ 0 34.18	+ 57.625
	Metis	.	14.0	28.0	23 14.05	1 44.188		
	B. Z., 345, 34	17.2	31.1	44.0	26 30.77	3 41.717	+ 0 34.28	+ 57.684
	Metis	.	5.0	18.0	27 5.05	1 44.148		
	B. Z., 345, 34	45.0	58.3	12.0	29 58.43	3 41.498	+ 0 34.32	+ 57.333
	Metis	.	32.7	46.0	30 32.75	1 44.280		
	B. Z., 345, 34	47.2	1.2	15.0	36 1.13	3 41.771	+ 0 33.92	+ 57.532
	Metis	.	35.0	49.0	36 35.05	1 44.354		

RESULTS.

Corr. Chron. + 0 m. s. 46.46

	a (h. m. s.)	δ (° ′ ″)
B. Z., 347, 40,	9 8 6.36	+25 15 17.88

Metis—B. Z., 347, 40,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	10 28 37.93	− 0 7.49	+ 0 13.23
Δt		− .02	
Δϱ		.00	+ .00
p		+ .10	+ 1.39

Corr. Chron. + 0 m. s. 46.20

	a (h. m. s.)	δ (° ′ ″)
B. Z., 347, 40,	9 8 6.34	+25 15 18.07

Metis—B. Z., 347, 40,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	9 23 51.08	− 0 17.34	− 7 47.36
Δt		− .05	
Δϱ		.00	− .14
p		+ .03	+ 1.27

Corr. Chron. + 0 m. s. 44.73

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 34,	9 8 43.68	+24 16 24.90

Metis—B. Z., 345, 34,

	h. m. s.	Δa (m. s.)	Δδ (′ ″)
M. T.	9 30 6.45	+ 0 34.18	+14 44.43
Δt		+ .10	
Δϱ		.00	+ .27
p		+ .08	+ 1.31

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 6	B. Z., 345, 34	51.2	4.7	18.5	8 50 4.80	2 39.801	+ 1 35.77	+ 5.463
	Metis	27.0	40.7	54.0	51 40.57	2 34.338		
	B. Z., 345, 34	50.0	3.5	17.2	53 3.57	2 39.763	+ 1 35.80	+ 5.500
	Metis	26.1	39.0	53.0	54 39.37	2 34.263		
	B. Z., 345, 34	21.0	34.2	47.5	56 34.23	2 39.825	+ 1 35.77	+ 5.436
	Metis	56.5	10.5	23.0	58 10.00	2 34.389		
	B. Z., 345, 34	22.9	36.0	49.5	59 36.13	2 39.810	+ 1 35.47	+ 5.270
	Metis	58.0	11.8	25.0	9 1 11.60	2 34.540		
	B. Z., 345, 34	16.9	30.5	44.2	1 30.53	2 39.825	+ 1 35.24	+ 5.403
	Metis	52.0	6.2	19.1	3 5.77	2 34.422		
	B. Z., 345, 34	46.2	0.0	13.7	5 59.97	2 38.859	+ 1 35.76	+ 5.268
	Metis	22.0	36.0	49.2	7 35.73	2 33.591		
	B. Z., 345, 34	16.6	29.7	43.7	9 30.00	2 38.829	+ 1 35.67	+ 5.239
	Metis	52.0	6.0	19.0	11 5.67	2 33.590		
	B. Z., 345, 34	32.9	46.0	59.7	12 46.20	2 38.839	+ 1 35.93	+ 5.191
	Metis	8.5	21.9	36.0	14 22.13	2 33.648		
	B. Z., 345, 34	31.0	45.2	58.0	20 44.73	2 38.958	+ 1 35.80	+ 5.046
	Metis	7.0	20.7	34.0	22 20.57	2 33.912		
	B. Z., 345, 34	38.5	52.0	5.0	24 51.83	2 38.955	+ 1 36.07	+ 5.020
	Metis	14.6	28.1	41.0	26 27.90	2 33.935		
	B. Z., 345, 34	46.2	0.2	13.7	28 0.37	2 38.895	+ 1 35.63	+ 4.900
	Metis	23.0	36.0	49.0	29 36.00	2 33.995		
	B. Z., 345, 34	7.4	21.0	34.0	32 20.80	2 39.023	+ 1 36.20	+ 4.843
	Metis	43.5	57.0	10.5	33 57.00	2 34.180		
	B. Z., 345, 34	32.2	45.7	59.0	35 45.63	2 39.100	+ 1 36.20	+ 4.912
	Metis	8.5	22.0	35.0	37 21.83	2 34.188		
	B. Z., 345, 34	31.9	45.0	58.7	38 45.20	2 39.121	+ 1 36.47	+ 4.861
	Metis	8.0	22.0	35.0	40 21.67	2 34.261		
11	B. Z., 345, 34	10.9	24.0	37.5	10 3 24.13	1 21.987	+ 3 52.10	— 91.519
	Metis	3.0	16.2	29.5	7 16.23	3 53.391		
	B. Z., 345, 34	17.0	30.2	44.0	9 30.40	1 22.265	+ 3 52.83	— 91.398
	Metis	10.0	23.2	36.5	13 23.23	3 53.548		
	B. Z., 345, 34	29.7	43.7	57.0	16 43.47	1 22.058	+ 3 52.80	— 91.639
	Metis	23.0	36.2	49.6	20 36.27	3 53.582		
18	Metis	5.5	18.9	32.1	11 57 18.84	2 56.223		
	B. Z., 345, 39	51.0	4.4	18.1	58 4.53	2 44.895	— 0 45.69	— 11.328
	B. Z., 345, 40	3.1	16.3	29.9	58 16.43	2 44.978	— 0 57.59	— 11.245
	Metis	34.6	48.1	1.6	12 0 48.09	2 56.176		
	B. Z., 345, 39	20.1	33.8	47.1	1 33.68	2 44.989	— 0 45.59	— 11.187
	B. Z., 345, 40	32.6	45.6	59.2	1 45.79	2 45.002	— 0 57.70	— 11.174
	Metis	42.1	55.6	9.2	4 55.66	2 56.211		
	B. Z., 345, 39	27.7	41.1	54.7	5 41.16	2 44.780	— 0 45.50	— 11.431
	B. Z., 345, 40	39.6	53.0	6.6	5 53.06	2 44.900	— 0 57.40	— 11.311
	Metis	5.4	18.8	32.3	8 18.86	2 56.329		
	B. Z., 345, 39	50.8	4.3	17.9	9 4.32	2 44.909	— 0 45.46	— 11.420
	B. Z., 345, 40	2.9	16.3	29.6	9 16.25	2 44.921	— 0 57.39	— 11.408

RESULTS.

Apr. 6

Corr. Chron. + 0 m. s. 43.83

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 34,	9 8 43.65	+24 16 25.15

Metis—B. Z., 345, 34,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 15 52.10	+ 1 35.84	+ 1 19.43
	Δt	+ .26	
	Δρ	.00	+ .02
	p	+ .08	+ 1.31

11

Corr. Chron. + 0 m. s. 42.71

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 34,	9 8 43.59	+24 16 25.56

Metis—B. Z., 345, 34,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 14 27.95	+ 3 52.58	—23 26.61
	Δt	+ .64	
	Δρ	.00	— .45
	p	+ .16	+ 1.50

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 18	Metis	32.4	46.0	59.7	12 11 46.04	2 56.341		
	B. Z., 345, 39	18.0	31.5	45.0	12 31.49	2 44.829	− 0 45.45	− 11.512
	B. Z., 345, 40	29.9	43.3	56.6	12 43.25	2 45.005	− 0 57.21	− 11.336
	Metis	15.2	28.5	41.9	16 28.54	2 56.482		
	B. Z., 345, 39	0.5	13.6	27.3	17 13.80	2 44.871	− 0 45.26	− 11.611
	B. Z., 345, 40	. .	25.6	38.9	17 25.67	2 45.002	− 0 57.13	− 11.480
	Metis	53.3	6.8	20.3	21 6.80	2 56.608		
	B. Z., 345, 39	38.5	51.8	5.6	21 51.98	2 44.891	− 0 45.18	− 11.717
	B. Z., 345, 40	50.4	3.9	17.6	22 3.97	2 45.002	− 0 57.17	− 11.606
	Metis	23.0	36.5	49.9	24 36.44	2 56.639		
	B. Z., 345, 39	7.8	21.3	34.6	25 21.23	2 44.851	− 0 44.79	− 11.788
	B. Z., 345, 40	19.6	32.9	46.5	25 33.01	2 44.899	− 0 56.57	− 11.740
	Metis	5.7	18.7	32.2	28 18.85	2 56.665		
	B. Z., 345, 39	50.5	3.9	17.4	29 3.92	2 44.830	− 0 45.07	− 11.835
	B. Z., 345, 40	2.3	15.9	29.2	29 15.80	2 45.052	− 0 56.95	− 11.613
21	B. Z., 345, 39	7.0	21.2	34.0	8 27 20.73	1 31.002	+ 1 19.94	− 79.685
	B. Z., 345, 40	19.0	32.0	46.1	27 32.37	1 31.188	+ 1 8.30	− 79.499
	Metis	27.5	40.7	53.8	28 40.67	3 50.572		
	B. Z., 345, 39	17.9	31.2	45.2	33 31.43	1 31.151	+ 1 19.61	− 80.164
	B. Z., 345, 40	29.0	43.0	56.0	33 42.67	1 31.259	+ 1 8.37	− 80.056
	Metis	. .	51.0	4.0	34 51.04	3 51.200		
	B. Z., 345, 39	32.1	46.0	59.2	41 45.77	1 31.228	+ 1 20.43	− 80.035
	B. Z., 345, 40	44.0	57.0	11.0	41 57.33	1 31.245	+ 1 8.87	− 80.018
	Metis	53.2	6.2	19.2	43 6.20	3 51.148		
	B. Z., 345, 39	57.0	11.0	24.3	47 10.77	1 31.335	+ 1 20.70	− 80.106
	B. Z., 345, 40	9.0	22.0	35.9	47 22.30	1 31.386	+ 1 9.17	− 80.055
	Metis	18.2	31.2	45.0	48 31.47	3 51.326		
	B. Z., 345, 39	51.0	5.0	18.2	53 4.73	1 31.478	+ 1 20.94	− 80.146
	B. Z., 345, 40	3.0	16.0	29.5	53 16.16	1 31.469	+ 1 9.51	− 80.155
	Metis	12.6	25.2	39.2	54 25.67	3 51.509		
	B. Z., 345, 39	49.2	3.2	17.2	58 3.20	1 31.475	+ 1 20.87	− 80.241
	B. Z., 345, 40	1.0	15.0	28.1	58 14.70	1 31.480	+ 1 9.37	− 80.236
	Metis	11.2	24.0	37.0	59 24.07	3 51.601		
	B. Z., 345, 39	16.1	29.5	43.2	9 2 29.60	1 31.325	+ 1 21.27	− 80.549
	B. Z., 345, 40	28.0	41.0	54.1	2 41.03	1 31.550	+ 1 9.84	− 80.324
	Metis	37.7	51.0	3.9	3 50.87	3 51.759		
	B. Z., 345, 39	43.0	56.7	10.0	6 56.57	1 31.431	+ 1 21.36	− 80.322
	B. Z., 345, 40	55.0	8.2	21.9	7 8.37	1 31.430	+ 1 9.56	− 80.323
	Metis	4.3	18.0	31.5	8 17.93	3 51.638		
	B. Z., 345, 39	11.0	24.9	38.0	11 24.63	1 31.385	+ 1 21.47	− 80.562
	B. Z., 345, 40	22.1	36.0	49.1	11 35.73	1 31.539	+ 1 10.37	− 80.408
	Metis	33.2	46.1	59.0	12 46.10	3 51.832		
	B. Z., 345, 39	16.2	29.8	43.0	15 29.67	1 31.465	+ 1 21.93	− 80.721
	B. Z., 345, 40	28.0	41.2	55.0	15 41.40	1 31.582	+ 1 10.20	− 80.604
	Metis	38.2	51.5	5.1	16 51.60	3 52.071		
29	B. Z., 278, 159	50.2	3.0	18.0	9 29 3.73	3 38.788	+ 3 2.97	+ 31.022
	Metis	53.0	7.1	20.0	32 6.70	2 37.702		
	B. Z., 278, 159	22.2	. .	49.0	33 35.60	3 38.798	+ 3 3.73	+ 31.026
	Metis	26.0	39.0	53.0	36 39.33	2 37.708		
	B. Z., 278, 159	14.0	27.0	40.5	38 27.16	3 38.851	+ 3 3.64	+ 30.832
	Metis	17.3	31.0	44.1	40 30.80	2 37.955		

RESULTS.

Corr. Chron. + 0 m. s. 42.50

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 39,	9 17 36.68	+23 17 4.22
B. Z., 345, 40,	9 17 49.55	+23 17 3.22

Metis—B. Z., 345, 39,

		Δa (m. s.)	Δδ (′ ″)
S. T.	12 13 20.07	− 0 45.33	− 2 57.30
	Δϱ	.00	− .04
	p	+ .18	+ 1.61

Metis—B. Z., 345, 40,

		Δa (m. s.)	Δδ (′ ″)
S. T.	12 13 20.07	− 0 57.23	− 2 55.75
	Δϱ	.00	− .04
	p	+ .18	+ 1.61

Corr. Chron. + 0 m. s. 40.03

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 39,	9 17 36.66	+23 17 4.44

Metis—B. Z., 345, 39,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 55 44.56	+ 1 20.85	−20 33.46
	Δt	+ .22	
	Δϱ	.00	− .38
	p	+ .10	+ 1.33

	a (h. m. s.)	δ (° ′ ″)
B. Z., 345, 40,	9 17 49.52	+23 17 3.40

Metis—B. Z., 345, 40,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 55 44.56	+ 1 9.35	−20 32.15
	Δt	+ .19	
	Δϱ	.00	− .38
	p	+ .10	+ 1.33

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 29	B. Z., 278, 159	35.2	48.3	1.0	9 41 48.17	3 38.857	+ 3 3.16	+ 30.858
	Metis	38.0	51.0	5.0	44 51.33	2 37.935		
	B. Z., 278, 159	44.2	58.1	11.4	45 57.90	3 38.962	+ 3 4.43	+ 30.862
	Metis	49.0	2.0	16.0	49 2.33	2 38.036		
	B. Z., 278, 159	27.6	41.0	54.3	50 40.97	3 38.842	+ 3 3.53	+ 30.897
	Metis	31.0	44.6	57.9	53 44.50	2 37.881		
	B. Z., 278, 159	23.7	36.8	50.0	58 36.83	3 38.919	+ 3 4.97	+ 30.582
	Metis	28.5	41.9	55.0	10 1 41.80	2 38.273		
	B. Z., 278, 159	40.2	53.5	7.1	3 53.60	3 38.890	+ 3 4.40	+ 30.514
	Metis	44.6	58.2	11.2	6 58.00	2 38.312		
May 1	Metis	36.0	49.1	3.0	9 46 49.37	3 31.142		
	B. Z., 278, 169	21.4	35.1	49.0	40 35.17	3 36.760	− 2 45.80	+ 5.618
	B. Z., 278, 170	56.0	. .	. .	50 9.39	3 25.875	− 3 20.02	+ 5.267
	Metis	38.0	51.6	5.1	52 51.57	3 31.240		
	B. Z., 278, 169	23.5	37.5	50.0	55 37.00	3 36.710	− 2 45.43	+ 5.470
	B. Z., 278, 170	58.0	11.0	. .	56 10.30	3 25.855	− 3 18.73	+ 5.385
	Metis	14.0	26.1	40.0	58 27.03	3 31.493		
	B. Z., 278, 169	0.3	13.0	26.2	10 1 13.17	3 36.735	− 2 46.14	+ 5.242
	B. Z., 278, 170	34.0	47.0	0.0	1 47.00	3 25.830	− 3 19.97	− 5.663
	Metis	54.2	8.1	21.0	5 7.77	3 31.441		
	B. Z., 278, 169	39.0	53.0	6.5	7 52.83	3 36.625	− 2 45.06	+ 5.184
	B. Z., 278, 170	13.2	26.8	40.0	8 26.67	3 25.874	− 3 18.90	− 5.567
2	Metis	37.2	50.0	3.0	9 28 50.07	3 39.571		
	B. Z., 278, 169	27.3	39.7	53.2	30 40.07	2 49.121	− 1 50.00	− 20.386
	B. Z., 278, 170	1.0	14.2	27.2	31 14.13	2 38.548	− 2 24.06	− 30.959
	Metis	23.1	36.0	49.2	33 36.10	3 39.643		
	B. Z., 278, 169	11.3	24.7	38.2	35 24.73	2 49.112	− 1 48.63	− 20.467
	B. Z., 278, 170	46.0	59.0	12.0	35 59.00	2 38.493	− 2 22.90	− 31.086
	Metis	11.3	24.2	37.3	37 24.26	3 39.780		
	B. Z., 278, 169	1.2	14.4	27.1	39 14.23	2 49.090	− 1 49.97	− 20.626
	B. Z., 278, 170	34.7	48.3	1.3	39 48.10	2 38.545	− 2 23.84	− 31.171
	Metis	16.2	29.2	42.0	41 29.13	3 39.995		
	B. Z., 278, 169	4.3	18.0	31.0	43 17.77	2 49.192	− 1 48.64	− 20.739
	B. Z., 278, 170	39.0	52.0	4.9	43 51.97	2 38.514	− 2 22.84	− 31.417
	Metis	27.5	41.0	54.0	45 40.83	3 40.084		
	B. Z., 278, 169	16.5	30.2	43.0	47 29.90	2 49.169	− 1 49.07	− 20.851
	B. Z., 278, 170	50.9	3.6	17.0	48 3.83	2 38.412	− 2 23.00	− 31.608
	Metis	31.0	44.0	57.0	49 44.00	3 40.134		
	B. Z., 278, 169	19.7	33.0	46.0	51 32.90	2 49.201	− 1 48.90	− 20.869
	B. Z., 278, 170	54.2	7.2	20.0	52 7.13	2 38.452	− 2 23.13	− 31.618
6	B. Z., 278, 172	14.9	28.2	41.3	12 51 28.10	3 35.990	+ 1 35.76	+ 27.277
	Metis	50.6	3.9	17.1	53 3.86	2 38.649		
	B. Z., 278, 172	4.7	17.8	30.9	54 17.76	3 36.028	+ 1 35.65	+ 27.115
	Metis	40.1	53.5	6.7	55 53.41	2 38.849		
	B. Z., 278, 172	45.7	58.9	12.2	56 58.93	3 36.180	+ 1 36.06	+ 27.184
	Metis	21.8	34.9	48.3	58 34.99	2 38.932		
	B. Z., 278, 172	8.9	22.1	35.3	13 3 22.12	3 36.061	+ 1 36.40	+ 27.108
	Metis	45.3	58.4	11.9	4 58.52	2 38.889		

RESULTS.

Apr. 29 — Corr. Chron. + 0 m. 37.48 s.

	a (h. m. s.)	δ (° ′ ″)
B. Z., 278, 159,	9 22 33.27	+21 56 31.86

Metis—B. Z., 278, 159,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 48 49.33	+ 3 3.85	+ 7 53.75
	Δt	+ .50	
	Δϱ	.00	+ .16
	p	+ .16	+ 1.56

May 1 — Corr. Chron. + 0 m. 37.48 s.

	a (h. m. s.)	δ (° ′ ″)
B. Z., 278, 169,	9 30 14.94	+21 49 16.56
B. Z., 278, 170,	9 30 49.12	+21 52 2.71

Metis—B. Z., 278, 169,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 56 26.42	− 2 45.61	+ 1 22.66
	Δt	− .48	
	Δϱ	.00	+ .03
	p	+ .17	+ 1.59

Metis—B. Z., 278, 170,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 56 26.42	− 3 19.41	− 1 24.07
	Δt	− .54	
	Δϱ	.00	− .03
	p	+ .17	+ 1.59

2 — Corr. Chron. + 0 m. 38.13 s.

	a (h. m. s.)	δ (° ′ ″)
B. Z., 278, 169,	9 30 14.93	+21 49 16.63
B. Z., 278, 170,	9 30 49.10	+21 52 2.78

Metis—B. Z., 278, 169,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 40 5.53	− 1 49.20	− 5 17.47
	Δt	− .29	
	Δϱ	.00	− .11
	p	+ .16	+ 1.54

Metis—B. Z., 278, 170,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 40 5.53	− 2 23.30	− 8 1.21
	Δt	− .39	
	Δϱ	.00	− .17
	p	+ .16	+ 1.54

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 6	B. Z., 278, 172	57.9	11.2	24.3	13 6 11.15	3 36.198	+ 1 36.31	+ 27.122
	Metis	34.2	47.5	0.8	7 47.46	2 39.012		
	B. Z., 278, 172	55.8	9.4	22.6	9 9.25	3 36.229	+ 1 36.53	+ 26.944
	Metis	32.4	45.7	59.2	10 45.78	2 39.221		
	B. Z., 278, 172	20.7	33.8	47.1	12 33.86	3 36.182	+ 1 37.51	+ 26.960
	Metis	58.1	11.4	24.6	14 11.37	2 39.158		
	B. Z., 278, 172	15.9	29.2	42.5	15 29.20	3 36.193	+ 1 36.75	+ 26.798
	Metis	52.8	5.9	19.2	17 5.95	2 39.331		
	B. Z., 278, 172	11.4	24.6	38.0	18 24.64	3 36.158	+ 1 36.87	+ 26.734
	Metis	48.2	1.6	14.7	20 1.51	2 39.360		
	B. Z., 278, 172	5.0	18.1	31.6	21 18.21	3 36.293	+ 1 36.96	+ 26.809
	Metis	42.0	55.1	8.4	22 55.17	2 39.420		
7	B. Z., 278, 172	17.6	30.6	44.1	11 9 30.75	2 34.598	+ 2 33.08	+ 0.818
	Metis	51.0	3.5	17.0	12 3.83	2 33.780		
	B. Z., 278, 172	58.3	11.4	24.8	14 11.49	2 34.612	+ 2 33.24	+ 0.757
	Metis	31.5	44.7	58.0	16 44.73	2 33.855		
	B. Z., 278, 172	1.2	14.5	27.6	19 14.43	2 32.449	+ 2 33.62	+ 0.438
	Metis	34.6	48.2	1.3	21 48.05	2 32.011		
	B. Z., 278, 172	48.9	2.0	15.3	27 2.05	2 32.592	+ 2 33.70	+ 0.494
	Metis	22.6	35.6	49.0	29 35.75	2 32.098		
11	B.A.C., 3318	20.1	33.4	46.7	11 20 33.39	1 40.169	+ 2 33.89	— 55.897
	Metis	54.2	7.1	20.6	23 7.28	3 35.951		
	B.A.C., 3318	26.2	39.3	52.6	24 39.36	1 40.170	+ 2 34.12	— 55.905
	Metis	0.4	13.5	26.5	27 13.48	3 35.960		
	B.A.C., 3318	14.9	28.4	41.7	32 28.33	1 40.390	+ 2 34.24	— 56.070
	Metis	49.6	2.4	15.8	35 2.57	3 36.345		
	B.A.C., 3318	17.9	31.1	44.6	36 31.21	1 40.416	+ 2 35.00	— 56.176
	Metis	53.7	5.7	19.2	39 6.21	3 36.477		
	B.A.C., 3318	33.2	46.9	60.0	40 46.69	1 40.493	+ 2 34.95	— 56.152
	Metis	8.5	21.5	35.0	43 21.64	3 36.530		
	B.A.C., 3318	36.4	49.8	3.0	44 49.73	1 40.368	+ 2 34.91	— 56.456
	Metis	11.4	24.7	37.8	47 24.64	3 36.709		
	B.A.C., 3318	38.4	52.7	5.8	12 3 52.31	1 40.326	+ 2 36.10	— 56.711
	Metis	15.3	28.2	41.7	6 28.41	3 36.922		
21	3002 Rumker	34.2	47.2	0.4	12 6 47.29	1 40.071	+ 1 46.34	— 53.322
	Metis	20.6	33.5	46.8	8 33.63	3 33.278		
	3002 Rumker	54.5	7.8	20.8	9 7.69	1 40.191	+ 1 46.76	— 53.224
	Metis	41.4	54.4	7.6	11 54.45	3 33.300		
	3002 Rumker	47.8	1.0	14.5	13 1.08	1 40.183	+ 1 46.82	— 53.177
	Metis	34.9	47.9	1.0	14 47.90	3 33.245		
	3002 Rumker	38.8	52.0	5.3	15 52.00	1 40.099	+ 1 46.95	— 53.277
	Metis	26.0	38.9	52.0	17 38.95	3 33.261		
	3002 Rumker	29.3	42.5	55.8	24 42.53	1 40.138	+ 1 47.29	— 53.577
	Metis	16.8	29.7	42.9	26 29.82	3 33.600		

RESULTS.

May 6

m. s.
Corr. Chron. + 1 4.14

	a	δ
	h. m. s.	° ′ ″
B. Z., 278, 172,	9 30 47.31	+21 7 52.39

Metis—B. Z., 278, 172,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
S. T.	13 9 35.94	+ 1 36.48	+ 6 55.06
	Δϱ	+ .00	+ .16
	p	+ .18	+ 1.70

7

m. s.
Corr. Chron. + 1 04.81

	a	δ
	h. m. s.	° ′ ″
B. Z., 278, 172,	9 30 47.30	+21 7 52.45

Metis—B. Z., 278, 172,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
S. T.	11 21 7.90	+ 2 33.41	+ 0 9.64
	p	+ .10	+ 1.35

11

m. s.
Corr. Chron. + 1 10.73

	a	δ
	h. m. s.	° ′ ″
B.A.C., 3318,	9 35 1.47	+20 52 17.25

Metis—B.A.C., 3318,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
S. T.	11 41 25.62	+ 2 34.74	—14 23.70
	Δϱ	.00	— .28
	p	+ .11	+ 1.38

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 21	3002 Rumker	29.8	43.1	56.2	12 27 43.04	1 40.092	+ 1 47.59	— 53.673
	Metis	17.6	30.6	43.7	29 30.63	3 33.650		
	3002 Rumker	49.9	2.9	16.3	31 3.03	1 40.140	+ 1 47.56	— 53.735
	Metis	37.6	50.3	3.9	32 50.59	3 33.760		
	3002 Rumker	59.2	12.0	25.2	9 24 12.13	1 40.120	+ 1 49.54	— 54.525
	Metis	49.1	1.7	14.2	26 1.67	3 34.530		
	3002 Rumker	49.2	2.0	15.3	29 2.16	1 39.885	+ 1 49.74	— 54.952
	Metis	- -	51.9	5.0	30 51.90	3 34.722		
	3002 Rumker	19.2	31.5	44.7	32 31.80	1 39.801	+ 1 49.77	— 55.004
	Metis	8.7	22.0	34.0	34 21.57	3 34.690		
	3002 Rumker	45.0	58.0	11.0	36 58.00	1 39.849	+ 1 50.57	— 55.175
	Metis	36.1	48.6	1.0	38 48.57	3 34.909		
24	B. Z., 275, 87	0.7	13.7	26.7	12 21 13.70	2 38.909	+ 1 33.61	+ 13.939
	Metis	33.8	47.6	0.6	22 47.31	2 24.970		
	B. Z., 275, 87	24.9	38.3	50.7	24 37.98	2 38.973	+ 1 34.31	+ 14.032
	Metis	59.2	12.4	25.3	26 12.29	2 24.941		
	B. Z., 275, 87	29.4	42.5	55.4	27 42.45	2 38.810	+ 1 34.59	+ 13.949
	Metis	4.0	17.0	30.1	29 17.04	2 24.861		
	B. Z., 275, 87	21.9	34.9	47.9	30 34.92	2 38.889	+ 1 34.66	+ 13.926
	Metis	56.4	9.6	22.7	32 9.58	2 24.963		
	B. Z., 275, 87	45.2	58.8	11.8	33 58.60	2 38.810	+ 1 34.58	+ 13.670
	Metis	20.2	33.1	46.2	35 33.18	2 25.140		
	B. Z., 275, 87	55.0	8.1	20.9	37 8.00	2 38.940	+ 1 34.60	+ 13.702
	Metis	29.5	42.7	55.7	38 42.60	2 25.238		
	B. Z., 275, 87	15.7	28.6	- -	40 28.55	2 38.813	+ 1 34.78	+ 13.503
	Metis	50.2	3.3	16.5	42 3.33	2 25.310		
26	Metis	55.0	7.5	21.0	12 27 7.83	1 42.112		
	B. Z., 274, 167	38.6	- -	3.8	28 51.18	3 52.741	— 1 43.35	+ 70.734
	Metis	20.0	- -	45.2	31 32.56	1 41.930		
	B. Z., 274, 167	- -	14.9	27.9	33 15.00	3 52.891	— 1 42.44	+ 71.076
	Metis	24.1	37.1	50.1	34 37.11	1 42.091		
	B. Z., 274, 167	6.9	19.7	32.8	36 19.80	3 52.910	— 1 42.69	+ 70.934
	Metis	16.3	29.7	42.6	37 29.53	1 42.151		
	B. Z., 274, 167	59.3	12.0	25.4	39 12.26	3 52.921	— 1 42.73	+ 70.885
	Metis	3.5	16.0	29.0	40 16.19	1 42.130		
	B. Z., 274, 167	45.7	58.3	11.4	41 58.47	3 52.753	— 1 42.28	+ 70.738
	Metis	40.3	53.1	6.0	43 53.13	1 42.313		
	B. Z., 274, 167	22.1	35.2	48.3	45 35.22	3 52.790	— 1 42.09	+ 70.592
	Metis	25.7	38.9	52.1	47 38.89	1 42.320		
	B. Z., 274, 167	7.8	20.9	33.9	49 20.90	3 52.566	— 1 42.01	+ 70.361
	Metis	26.5	39.6	52.6	50 39.57	1 42.527		
	B. Z., 274, 167	8.6	21.3	34.2	52 21.38	3 52.750	— 1 41.81	+ 70.338
	Metis	31.6	44.5	57.6	13 16 44.56	1 43.031		
	B. Z., 274, 167	12.4	25.1	38.2	18 25.24	3 52.618	— 1 40.68	+ 69.702

RESULTS.

Corr. Chron. + 0 46.00 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
3002 Rumker,	9 46 32.69	+19 31 32.59

Metis—3002 Rumker,

		Δα (m. s.)	Δδ (′ ″)
S. T.	12 45 16.17	+ 1 48.08	—13 49.45
	Δρ	.00	— .30
	p	+ .14	+ 1.51

Corr. Chron. + 1 19.44 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 275, 87,	9 51 11.35	+18 49 4.34

Metis—B. Z., 275, 87,

		Δα (m. s.)	Δδ (′ ″)
S. T.	12 33 43.06	+ 1 34.45	+ 3 22.36
	Δρ	.00	+ .07
	p	+ .13	+ 1.46

Corr. Chron. + 1 41.72 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 274, 167,	9 56 57.83	+18 17 22.70

Metis—B. Z., 274, 167,

		Δα (m. s.)	Δδ (′ ″)
S. T.	12 45 1.65	— 1 42.23	+18 5.03
	Δρ	.00	+ .38
	p	+ .13	+ 1.47

(Continued.)

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. June 4	B. Z., 410, 5 - - -	8.0	19.7	33.0	8 26 20.23	2 34.226	+ 2 1.07	— 1.993
	Metis - - - - -	9.0	20.9	34.0	28 21.30	2 36.219		
	B. Z., 410, 5 - -	41.2	53.7	6.2	29 53.70	2 34.011	+ 2 0.33	— 2.349
	Metis - - - - -	41.0	54.0	7.1	31 54.03	2 36.360		
	B. Z., 410, 5 - - -	43.7	56.0	9.7	33 56.47	2 32.010	+ 2 0.50	— 2.420
	Metis - - - - -	44.5	57.0	9.4	35 56.97	2 34.430		
	B. Z., 410, 5 - - -	13.3	26.5	39.1	37 26.30	2 31.986	+ 2 0.83	— 2.497
	Metis - - - - -	14.2	27.2	40.0	39 27.13	2 34.483		
	B. Z., 410, 5 - - -	5.7	18.7	30.9	41 18.43	2 31.951	+ 2 1.04	— 2.677
	Metis - - - - -	6.9	19.5	32.0	43 19.47	2 34.628		
	B. Z., 410, 5 - - -	5.1	18.1	30.9	45 18.03	2 32.076	+ 2 1.44	— 2.757
	Metis - - - - -	6.9	19.5	32.0	47 19.47	2 34.833		

RESULTS.

m. s.
Corr. Chron. + 0 2.43

	α	δ
	h. m. s.	° ′ ″
B. Z., 410, 5,	10 3 36.23	+17 16 8.17

Metis—B. Z., 410, 5,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 37 45.49	+ 2 0.37	+ 0 37.64
		Δt + .33	
		Δϱ .00	+ .01
		p + .13	+ 1.49

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 21	Weisse XIV, 759	17.2	29.1	41.9	9 52 29.40	2 27.429	+ 0 45.93	— 7.821
	Astræa	3.0	15.0	28.0	53 15.33	2 35.270		
	Weisse XIV, 787	39.0	52.0	4.0	53 51.83	2 41.355	— 0 36.50	+ 6.085
	Weisse XIV, 759	52.5	5.0	17.1	10 1 4.77	2 27.545	+ 0 45.46	— 7.692
	Astræa	38.0	50.0	2.7	1 50.23	2 35.237		
	Weisse XIV, 787	14.7	27.2	39.0	2 26.97	2 41.446	— 0 36.74	+ 6.209
	Weisse XIV, 759	22.0	34.1	47.0	7 34.37	2 27.482	+ 0 45.06	— 7.518
	Astræa	7.0	19.2	32.1	8 19.43	2 35.000		
	Weisse XIV, 787	43.9	56.6	9.0	8 56.50	2 41.579	— 0 37.07	+ 6.579
	Weisse XIV, 759	14.2	26.5	39.2	13 26.63	2 27.480	+ 0 45.04	— 7.432
	Astræa	59.0	12.0	24.0	14 11.67	2 34.912		
	Weisse XIV, 787	36.8	49.0	1.0	14 48.93	2 41.482	— 0 37.26	+ 6.570
	Weisse XIV, 759	48.7	1.2	14.0	24 1.30	2 27.540	+ 0 44.87	— 7.358
	Astræa	34.0	46.0	58.5	24 46.17	2 34.898		
	Weisse XIV, 787	11.0	24.0	36.0	25 23.67	2 41.512	— 0 37.50	+ 6.614
22	Astræa	51.1	3.3	15.7	12 8 3.35	2 12.772		
	Weisse XIV, 787	57.7	10.1	22.5	8 10.10	2 25.920	— 0 6.75	+ 13.148
	Astræa	5.9	18.5	30.7	11 18.69	2 12.684		
	Weisse XIV, 787	12.9	25.1	37.5	11 25.17	2 26.039	— 0 6.48	+ 13.355
	Astræa	7.4	19.8	32.3	13 19.83	2 12.789		
	Weisse XIV, 787	14.3	26.7	39.4	13 26.79	2 26.011	— 0 6.96	+ 13.222
	Astræa	11.2	23.8	35.8	15 23.60	2 12.620		
	Weisse XIV, 787	18.2	30.5	43.2	15 30.62	2 26.149	— 0 7.02	+ 13.529
	Astræa	12.7	25.3	37.6	17 25.18	2 12.712		
	Weisse XIV, 787	19.9	32.2	44.6	17 32.22	2 26.010	— 0 7.04	+ 13.298
	Astræa	43.0	55.6	8.1	20 55.54	2 12.742		
	Weisse XIV, 787	50.5	2.8	15.5	21 2.91	2 26.248	— 0 7.37	+ 13.506
	Astræa	42.8	55.2	7.8	22 55.27	2 12.774		
	Weisse XIV, 787	50.1	2.5	15.0	23 2.55	2 26.111	— 0 7.28	+ 13.337
	Astræa	48.5	0.8	13.4	25 0.89	2 12.643		
	Weisse XIV, 787	55.8	8.2	20.8	25 8.22	2 26.362	— 0 7.33	+ 13.719
	Astræa	53.0	4.6	16.8	27 4.79	2 12.851		
	Weisse XIV, 787	59.5	11.8	24.2	27 11.86	2 26.162	— 0 7.07	+ 13.311
	Astræa	2.4	14.7	27.3	29 14.79	2 12.628		
	Weisse XIV, 787	9.8	22.3	34.8	29 22.33	2 26.408	— 0 7.54	+ 13.780
	Astræa	45.5	58.1	10.4	30 57.99	2 12.660		
	Weisse XIV, 787	53.3	5.6	18.2	31 5.70	2 26.132	— 0 7.71	+ 13.472
	Astræa	32.6	45.0	57.3	32 44.95	2 12.481		
	Weisse XIV, 787	40.1	52.5	5.1	32 52.57	2 26.345	— 0 7.62	+ 13.864
	Astræa	1.4	13.6	26.0	35 13.66	2 12.705		
	Weisse XIV, 787	8.9	21.4	33.7	35 21.35	2 26.175	— 0 7.69	+ 13.470
	Astræa	42.1	54.7	6.9	36 54.57	2 12.487		
	Weisse XIV, 787	50.1	2 5	15.0	37 2.52	2 26.359	— 0 7.95	+ 13.872
	Astræa	19.6	32.2	44.6	39 32.15	2 12.389		
	Weisse XIV, 787	27.7	40.1	52.6	39 40.11	2 26.308	— 0 7.96	+ 13.919
	Astræa	16.6	29.1	41.5	41 29.04	2 12.301		
	Weisse XIV, 787	24.6	37.0	49.4	41 37.01	2 26.308	— 0 7.97	+ 14.007

RESULTS.

m. s.
Corr. Chron. + 0 40.01

	α	δ
	h. m. s.	° ′ ″
Weisse XIV, 759,	14 40 48.87	— 6 28 59.84
Weisse XIV, 787,	14 40 48.90	— 6 32 35.16

Astræa—Weisse XIV, 759,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 9 8.58	+ 0 45.27	— 1 56.26
	Δt	+ .12	
	Δϱ	.00	— .09
	p	— .20	+ 4.13

Astræa—Weisse XIV, 787,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 9 8.58	— 0 37.01	+ 1 38.53
	Δt	— .10	
	Δϱ	.00	+ .07
	p	— .20	+ 4.13

h. s.
Corr. Chron. + 0 45.93

	α	δ
	h. m. s.	° ′ ″
Weisse XIV, 787,	14 40 48.91	— 6 32 35.26

Astræa—Weisse XIV, 787,

		△α	△δ
	h. m. s.	m. s.	′ ″
Sid. T.	12 28 28.63	— 0 7.44	+ 3 29.14
	Δϱ	.00	— .14
	p	— .17	+ 4.16

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 22	Astræa	14.8	27.4	39.9	12 44 27.37	2 12.289		
	Weisse XIV, 787	23.2	35.3	47.8	44 35.45	2 26.220	— 0 8.08	+ 13.931
	Astræa	34.6	47.0	59.4	46 47 01	2 12.199		
	Weisse XIV, 787	42.7	55.0	7.4	46 55.01	2 26.385	— 0 8.00	+ 14.186
29	Astræa	28.0	40.0	53.0	10 29 40.33	3 28.001		
	Weisse XIV, 668	34.0	45.9	59.0	31 46.30	2 38.311	— 2 5.97	+ 19.626
	Astræa	0.2	13.0	24.2	33 12.47	3 27.880		
	Weisse XIV, 668	6.8	19.0	31.5	35 19.40	2 38.353	— 2 6.93	+ 19.463
	Astræa	21.9	34.0	46.0	38 33.97	3 27.759		
	Weisse XIV, 668	28.0	40.4	53.5	40 40.63	2 38.314	— 2 6.66	+ 19.381
	Astræa	21.2	33.5	45.8	42 33.50	3 27.760		
	Weisse XIV, 668	28.1	40.0	52.9	44 40.37	2 38.391	— 2 6.87	+ 19.305
	Astræa	12.0	24.0	37.0	46 24.33	3 27.752		
	Weisse XIV, 668	19.2	31.0	44.0	48 31.40	2 38.282	— 2 7.07	+ 19.406
	Astræa	19.0	31.0	43.0	51 31.00	3 27.634		
	Weisse XIV, 668	26.0	38.3	51.2	53 38.50	2 38.194	— 2 7.50	+ 19.376
May 1	Astræa	25.1	37.0	. .	10 28 37.31	1 42.392		
	Weisse XIV, 606	55.0	7.0	19.8	29 7.26	2 42.860	— 0 29.95	+ 30.647
	Astræa	49.2	2.0	14.2	32 1.80	1 42.131		
	Weisse XIV, 606	. .	33.1	45.0	32 32.75	2 42.756	— 0 30.95	+ 30.804
	Astræa	13.0	25.3	38.0	35 25.43	1 42.069		
	Weisse XIV, 606	43.7	56.1	8.0	35 55.93	2 42.710	— 0 30.50	+ 30.820
2	Astræa	26.0	39.2	51.0	10 30 38.73	1 56.500		
	Weisse XIV, 606	50.2	3.0	15.3	32 2.83	3 44.380	— 1 24.10	+ 47.995
	Astræa	52.7	4.6	17.2	34 4.83	1 56.468		
	Weisse XIV, 606	15.8	28.0	41.0	35 28.26	3 44.439	— 1 23.43	+ 48.086
	Astræa	46.1	59.0	11.0	36 58.70	1 56.350		
	Weisse XIV, 606	10.0	22.4	34.0	38 22.13	3 44.398	— 1 23.43	+ 48.163
	Astræa	13.0	25.1	37.0	41 25.03	1 56.308		
	Weisse XIV, 606	. .	49.0	1.3	42 49.13	3 44.314	— 1 24.10	+ 48.121
	Astræa	26.0	38.3	51.0	44 38.43	1 56.162		
	Weisse XIV, 606	50.6	2.7	15.0	46 2.43	3 44.300	— 1 24.00	+ 48.253
	Astræa	18.2	30.2	42.0	47 30.13	1 56.029		
	Weisse XIV, 606	42.2	54.1	6.0	48 54.10	3 44.230	— 1 23.97	+ 48.316
	Astræa	45.2	57.5	10.0	50 57.56	1 55.960		
	Weisse XIV, 606	9.0	21.4	33.5	52 21.30	3 44.259	— 1 23.74	+ 48.414
	Astræa	43.2	54.8	8.1	53 55.36	1 55.836		
	Weisse XIV, 606	7.0	19 5	32.0	55 19.50	3 44.050	— 1 24.14	+ 48.329
6	Weisse XIV, 503	6.8	19.2	30.8	13 54 18.94	2 33.631	+ 0 35.38	+ 37.423
	Astræa	41.8	54.4	6.8	54 54.32	3 41.118		
	Weisse XIV, 503	0.9	13.3	25.6	57 13.29	2 33.661	+ 0 35.94	+ 37.354
	Astræa	36.8	49.2	1.7	57 49.23	3 41.079		

RESULTS.

Apr. 22, 29:

Corr. Chron. + 0 m. 37.15 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XIV, 668,	14 36 33.66	— 5 45 19.62

Astræa—Weisse XIV, 668,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 40 56.42	— 2 6.83	+ 4 58.57
	Δt	— .35	
	Δϱ	.00	+ .18
	p	— 11	+ 4.14

May 1:

Corr. Chron. + 0 m. 38.43 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XIV, 606,	14 33 9.39	— 5 49 1.13

Astræa—Weisse XIV, 606,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 32 39.94	— 0 30.47	+ 7 52.72
	Δt	— .08	
	Δϱ	.00	+ .28
	p	— .11	+ 4.13

2:

Corr. Chron. + 0 m. 38.15 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XIV, 606,	14 33 9.39	— 5 49 1.10

Astræa—Weisse XIV, 606,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 43 9.25	— 1 23.86	+12 20.95
	Δt	— .23	
	Δϱ	.00	+ .42
	p	— .09	+ 4.11

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 6	Weisse XIV, 503	49.1	1.1	13.6	14 0 1.26	2 33.710	+ 0 35.58	+ 37.163
	Astræa	24.4	36.9	49.2	0 36.84	3 40.937		
	Weisse XIV, 503	47.7	59.2	11.8	2 59.53	2 33.580	+ 0 35.45	+ 37.336
	Astræa	22.6	35.0	47.4	3 34.98	3 40.980		
	Weisse XIV, 503	38.9	51.0	3.5	5 51.15	2 33.542	+ 0 35.52	— 37.319
	Astræa	14.2	26.5	39.3	6 26.67	3 40.925		
	Weisse XIV, 503	51.6	4.1	16.5	9 4.07	2 33.601	+ 0 35.32	— 37.233
	Astræa	27.0	39.3	51.9	9 39.39	3 40.898		
7	Astræa	45.3	57.9	10.0	12 52 57.72	3 31.702		
	Weisse XIV, 503	57.9	10.0	22.6	53 10.17	2 38.480	— 0 12.45	— 23.158
	Astræa	57.4	9.4	21.9	55 9.56	3 31.818		
	Weisse XIV, 503	10.2	21.9	34.9	55 22.34	2 38.527	— 0 12.78	— 23.227
	Astræa	48.0	0.5	12.7	58 0.38	3 31.670		
	Weisse XIV, 503	1.0	13.3	25.8	58 13.38	2 38.501	— 0 13.00	— 23.105
	Astræa	40.6	53.0	5.7	13 0 53.10	3 31.618		
	Weisse XIV, 503	53.9	6.3	18.7	0 6.31	2 38.458	— 0 13.21	— 23.096
	Astræa	54.6	7.5	19.7	2 7.26	3 31.653		
	Weisse XIV, 503	8.2	20.5	32.8	2 20.51	2 38.407	— 0 13.25	— 23.182
	Astræa	53.7	6.0	18.5	29 6.07	3 28.861		
	Weisse XIV, 503	7.7	19.9	32.5	29 20.02	2 35.889	— 0 13.95	— 22.908
	Astræa	48.5	0.7	13.0	31 0.71	3 28.732		
	Weisse XIV, 503	1.4	14.9	27.4	31 14.57	2 35.911	— 0 13.86	— 22.757
	Astræa	56.0	8.6	21.0	33 8.54	3 28.718		
	Weisse XIV, 503	10.3	22.7	35.2	33 22.74	2 35.839	— 0 14.20	— 22.815
	Astræa	49.1	1.6	13.9	35 1.52	3 28.790		
	Weisse XIV, 503	3.4	15.8	28.4	35 15.86	2 35.869	— 0 14.34	— 22.857
	Astræa	9.1	21.7	34.1	37 21.62	3 28.754		
	Weisse XIV, 503	23.6	36.0	48.5	37 36.13	2 35.890	— 0 14.51	— 22.800
	Astræa	2.2	14.6	27.0	39 14.60	3 28.595		
	Weisse XIV, 503	16.6	29.0	41.5	39 29.02	2 35.871	— 0 14.42	— 22.660
	Astræa	11.4	23.6	36.4	41 23.18	3 28.614		
	Weisse XIV, 503	25.9	38.4	50.8	41 38.08	2 35.970	— 0 14.90	— 22.580
	Astræa	4.8	17.3	29.9	43 17.28	3 28.510		
	Weisse XIV, 503	19.6	32.0	44.5	43 32.01	2 35.830	— 0 14.73	— 22.616
12	Weisse XIV, 423	1.4	13.7	26.1	13 13 13.73	2 42.339	+ 0 5.78	+ 31.638
	Astræa	7.0	19.7	31.9	13 19.51	1 40.880		
	Weisse XIV, 423	39.7	51.9	4.6	15 52.04	2 42.450	+ 0 5.78	+ 31.957
	Astræa	45.5	57.9	10.1	15 57.82	1 40.672		
	Weisse XIV, 423	26.9	39.3	51.7	16 39.32	2 42.426	+ 0 5.70	+ 31.780
	Astræa	32.6	45.3	57.2	16 45.02	1 40.825		
	Weisse XIV, 423	5.0	17.4	29.6	18 17.37	2 42.378	+ 0 5.58	+ 31.869
	Astræa	10.5	23.0	35.3	18 22.95	1 40.688		
	Weisse XIV, 423	43.5	55.2	8.3	20 55.65	2 42.361	+ 0 5.77	+ 31.808
	Astræa	49.1	1.4	13.8	21 1.42	1 40.732		
	Weisse XIV, 423	26.6	39.0	51.6	22 39.08	2 42.370	+ 0 5.63	+ 31.689
	Astræa	32.2	44.8	57.1	22 44.71	1 40.860		

RESULTS.

Corr. Chron. + 1 m. 4.18 s.

Weisse XIV, 503, α = 14 h. 27 m. 38.87 s., δ = − 5° 10′ 42″.96

Astræa—Weisse XIV, 503,

		$\Delta\alpha$	$\Delta\delta$
Sid. T. 14 h. 3 m. 14.42 s.		+ 0 m. 35.53 s.	+ 9′ 33″.36
	$\Delta\varrho$	.00	+ .31
	p	− .03	+ 4.06

Corr. Chron. + 1 m. 4.81 s.

Weisse XIV, 503, α = 14 h. 27 m. 38.87 s., δ = − 5° 10′ 42″.93

Astræa—Weisse XIV, 503,

		$\Delta\alpha$	$\Delta\delta$
Sid. T. 13 h. 22 m. 31.08 s.		− 0 m. 13.82 s.	− 5′ 52″.04
	$\Delta\varrho$	.00	− .20
	p	− .09	+ 4.03

Corr. Chron. + 1 m. 11.38 s.

Weisse XIV, 423, α = 14 h. 23 m. 14.64 s., δ = − 5° 8′ 17″.99

Astræa—Weisse XIV, 423,

		$\Delta\alpha$	$\Delta\delta$
Sid. T. 13 h. 19 m. 13.28 s.		+ 0 m. 5.71 s.	+ 8′ 8″.60
	$\Delta\varrho$	.00	+ .27
	p	− .08	+ 3.98

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 21	Weisse XIV, 257	59.5	12.0	24.0	10 6 11.80	2 35.661	+ 1 59.20	— 3.198
	Astræa	- -	- -	23.0	8 11.00	2 38.859		
	Weisse XIV, 257	33.0	45.1	57.5	19 45.20	2 35.650	+ 1 58.47	— 3.207
	Astræa	31.0	44.0	56.0	21 43.67	2 38.857		
	Weisse XIV, 257	2.2	14.2	26.8	26 14.40	2 35.491	+ 1 59.06	— 3.290
	Astræa	1.2	13.2	26.0	28 13.40	2 38.781		
	Weisse XIV, 257	27.1	39.0	51.0	30 39.03	2 35.620	+ 1 58.80	— 3.130
	Astræa	25.5	38.0	50.0	32 37.83	2 38.750		
	Weisse XIV, 257	26.1	38.0	50.2	34 38.10	2 35.495	+ 1 58.96	— 3.275
	Astræa	25.0	37.4	49.7	36 37.06	2 38.770		
	Weisse XIV, 257	50.0	2.7	15.0	38 2.56	2 35.601	+ 1 58.70	— 3.034
	Astræa	49.2	1.1	13.5	40 1.26	2 38.635		
June 18	Astræa	31.2	43.2	55.7	9 38 43.36	3 38.110		
	Weisse XIV, 174	26.2	-	50.5	39 38.35	2 36.375	— 0 54.99	— 31.671
	Astræa	46.2	58.9	11.0	40 58.70	3 38.008		
	Weisse XIV, 174	-	54.0	6.5	41 54.00	2 36.600	— 0 55.30	— 31.344
	Astræa	33.7	45.7	58.2	43 45.86	3 38.140		
	Weisse XIV, 174	28.2	41.5	- -	44 41.01	2 36.540	— 0 55.15	— 31.536
	Astræa	26.5	39.2	51.2	46 38.96	3 37.970		
	Weisse XIV, 174	- -	34.0	46.0	47 33.76	2 36.540	— 0 54.80	— 31.366
	Astræa	37.2	49.7	2.3	48 49.73	3 37.960		
	Weisse XIV, 174	- -	45.0	57.0	49 44.73	2 36.569	— 0 55.00	— 31.327
19	Weisse XIV, 174	13.2	25.2	37.6	57 25.33	3 38.015	+ 0 59.60	+ 18.721
	Astræa	- -	25.0	37.0	58 24.93	2 49.230		
	Weisse XIV, 174	43.7	56.1	8.2	10 0 56.00	3 38.080	+ 0 59.66	+ 19.075
	Astræa	43.0	56.0	8.0	1 55.66	2 48.941		
	Weisse XIV, 174	29.2	41.3	54.3	2 41.56	3 38.919	+ 1 0.00	+ 19.766
	Astræa	29.0	41.7	54.0	3 41.56	2 49.089		
	Weisse XIV, 174	41.0	54.2	6.0	6 53.90	3 39.045	+ 0 59.76	+ 19.660
	Astræa	41.0	54.0	6.0	7 53.66	2 49.321		
20	Weisse XIV, 174	43.2	56.0	8.7	8 53 55.96	2 42.881	+ 1 6.65	+ 6.042
	Astræa	- -	3.0	15.0	55 2.61	2 36.839		
	Weisse XIV, 174	58.3	10.4	23.3	57 10.66	2 42.856	+ 1 5.94	+ 5.885
	Astræa	4.2	- -	29.0	58 16.60	2 36.971		
	Weisse XIV, 174	3.4	16.2	28.7	9 0 16.10	2 42.900	+ 1 5.55	+ 5.862
	Astræa	- -	22.0	34.0	1 21.65	2 37.038		
	Weisse XIV, 174	11.3	24.2	36.7	3 24.06	2 42.920	+ 1 5.30	+ 5.782
	Astræa	- -	-	42.0	4 29.36	2 37.138		
	Weisse XIV, 174	44.3	56.3	8.7	6 56.43	2 42.889	+ 1 5.50	+ 5.775
	Astræa	- -	2.0	14.0	8 1.93	2 37.114		
21	Weisse XIV, 174	21.4	33.7	46.0	8 55 33.70	2 46.436	+ 1 14.30	— 7.929
	Astræa	36.0	48.0	0.0	56 48.00	2 54.365		
	Weisse XIV, 174	36.3	48.4	1.0	57 48.56	2 46.515	+ 1 14.34	— 7.755
	Astræa	50.7	3.0	15.0	59 2.90	2 54.270		

RESULTS.

Corr. Chron. + 0 m. s. 21.70

	α	δ
Weisse XIV, 257,	h. m. s. 14 14 19.89	° ′ ″ — 4 37 39.39

Astræa—Weisse XIV, 257,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	10 28 15.75	+ 1 58.86	— 0 49.01
		Δt + .32	
		Δρ .00	— .03
		p + .01	+ 3.84

Corr. Chron. — 0 m. s. 15.79

	α	δ
Weisse XIV, 174,	h. m. s. 14 10 11.67	° ′ ″ — 4 27 6.91

Astræa—Weisse XIV, 174,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 43 31.53	— 0 55.05	— 8 3.36
		Δt — .15	
		Δρ .00	— .27
		p + .08	+ 3.19

Corr. Chron. — 0 m. s. 16.61

	α	δ
Weisse XIV, 174,	h. m. s. 14 10 11.66	° ′ ″ — 4 27 6.85

Astræa—Weisse XIV, 174,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	10 2 42.34	+ 0 59.76	+ 4 56.71
		Δt + .16	
		Δρ .00	+ .17
		p + .10	+ 3.15

Corr. Chron. — 0 m. s. 17.55

	α	δ
Weisse XIV, 174,	h. m. s. 14 10 11.65	° ′ ″ — 4 27 6.79

Astræa—Weisse XIV, 174,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 1 8.88	+ 1 5.79	+ 1 30.21
		Δt + .18	
		Δρ .00	+ .05
		p + .05	+ 3.17

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 21	Weisse XIV, 174	57.7	9.1	22.0	9 0 9.60	2 46.496	+ 1 14.06	— 7.694
	Astræa	11.0	24.0	36.0	1 23.66	2 54.190		
	Weisse XIV, 174	24.6	37.2	49.7	2 37.16	2 46.431	+ 1 14.04	— 7.913
	Astræa	39.1	51.3	3.2	3 51.20	2 54.344		
	Weisse XIV, 174	12.3	24.0	37.0	6 24.43	2 46.489	+ 1 14.47	— 7.730
	Astræa	26.4	39.1	51.2	7 38.90	2 54.219		
	Weisse XIV, 174	28.3	40.6	53.0	8 40.65	2 46.460	+ 1 13.91	— 7.909
	Astræa	42.5	54.0	7.0	9 54.56	2 54.369		
	Weisse XIV, 174	38.3	50.8	3.1	8 28 50.73	1 39.729	+ 1 46.00	— 51.237
	Astræa	24.0	37.0	49.2	30 36.73	3 30.851		
	Weisse XIV, 174	31.7	44.2	56.7	32 44.20	1 39.748	+ 1 45.66	— 51.272
	Astræa	17.9	29.5	42.2	34 29.86	3 30.905		
	Weisse XIV, 174	37.3	49.3	1.7	36 49.43	1 39.691	+ 1 45.83	— 51.539
	Astræa	23.0	35.3	47.5	38 35.26	3 31.115		
	Weisse XIV, 174	32.5	44.7	57.2	40 44.80	1 39.695	+ 1 45.35	— 51.775
	Astræa	18.1	.	42.2	42 30.15	3 31.355		
	Weisse XIV, 174	51.3	4.7	17.2	45 4.40	1 39.923	+ 1 45.60	— 51.310
	Astræa	38.0	50.0	2.0	46 50.00	3 31.118		

RESULTS.

m. s.
Corr. Chron. — 0 18.70

	α	δ
	h. m. s.	° ′ ″
Weisse XIV, 174,	14 10 11.63	— 4 27 6.73

Astræa—Weisse XIV, 174,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 2 47.84	+ 1 14.19	— 2 0.22
	Δt	+ 0.20	
	Δρ	.00	— .06
	p	+ .05	+ 3.14

m. s.
Corr. Chron. — 0 22.12

	α	δ
	h. m. s.	° ′ ″
Weisse XIV, 174,	14 10 11.60	— 4 27 6.54

Astræa—Weisse XIV, 174,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 38 14.28	+ 1 45.69	—13 10.41
	Δt	+ .28	
	Δρ	.00	— .42
	p	+ .04	+ 3.12

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ Mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 9	Irene	46.0	58.5	11.0	10 13 58.50	2 36.269		
	Weisse XV, 864	20.0	33.0	46.0	14 33.00	3 30.592	− 0 34.50	+ 24.259
	Irene	7.0	19.0	32.0	21 19.33	2 36.580		
	Weisse XV, 864	41.5	54.0	6.3	21 53.93	3 30.722	− 0 34.60	+ 24.078
	Irene	49.3	2.1	15.0	26 2.13	2 36.473		
	Weisse XV, 864	24.1	36.9	49.5	26 36.83	3 30.769	− 0 34.70	+ 24.232
	Irene	8.0	20.3	33.1	32 20.47	2 36.501		
	Weisse XV, 864	43.0	55.7	8.2	32 55.63	3 30.705	− 0 35.16	+ 24.140
	Irene	46.0	58.5	11.2	45 58.57	2 36.600		
	Weisse XV, 864	21.2	34.0	48.2	46 34.47	3 30.848	− 0 35.90	+ 24.184
	Irene	17.1	29.2	42.5	53 29.60	2 36.336		
	Weisse XV, 864	52.7	5.3	18.0	54 5.33	3 30.451	− 0 35.73	+ 24.051
	Irene	51.7	4.0	17.0	11 0 4.23	2 36.669		
	Weisse XV, 864	27.1	40.3	52.7	0 40.03	3 30.750	− 0 35.80	+ 24.017
	Weisse XV, 845	29.2	42.0	54.3	4 41.83	2 41.370	+ 0 42.47	+ 4.965
	Irene	11.7	24.2	37.0	5 24.30	2 36.405		
	Weisse XV, 864	48.1	1.0	13.5	6 0.87	3 30.338	− 0 36.57	+ 23.869
	Weisse XV, 845	27.2	39.7	52.6	31 39.83	2 41.111	+ 0 41.34	+ 4.720
	Irene	8.2	21.3	34.0	32 21.17	2 36.391		
	Weisse XV, 864	45.7	58.5	11.3	32 58.50	3 30.120	− 0 37.33	+ 23.665
	Weisse XV, 845	46.2	59.0	11.7	35 58.93	2 41.199	+ 0 41.60	+ 4.838
	Irene	28.0	40.6	53.0	36 40.53	2 36.361		
	Weisse XV, 864	5.1	18.0	30.5	37 17.87	3 30.252	− 0 37.34	+ 23.827
	Weisse XV, 845	15.1	28.3	41.0	40 28.13	2 41.251	+ 0 41.40	+ 4.781
	Irene	57.0	9.1	22.4	41 9.53	2 36.470		
	Weisse XV, 864	34.6	47.4	0.0	41 47.33	3 30.085	− 0 37.80	+ 23.551
	Weisse XV, 845	59.2	12.3	25.0	45 12.17	2 41.058	+ 0 41.30	+ 4.643
	Irene	41.0	53.0	6.4	46 53.47	2 36.415		
	Weisse XV, 864	18.7	31.0	44.0	47 31.23	3 30.092	− 0 37.76	+ 23.613
	Weisse XV, 845	42.0	54.3	7.1	48 54.47	2 41.022	+ 0 41.00	+ 4.533
	Irene	22.9	35.6	47.9	49 35.47	2 36.489		
	Weisse XV, 864	0.3	13.1	26.1	50 13.16	3 30.222	− 0 37.69	+ 23.669
	Weisse XV, 845	54.0	7.0	19.3	51 6.67	2 41.119	+ 0 41.46	+ 4.626
	Irene	35.2	48.1	1.1	51 48.13	2 36.493		
	Weisse XV, 864	13.4	26.2	38.5	52 26.03	3 30.260	− 0 37.90	+ 23.703
	Weisse XV, 845	19.7	32.5	45.4	53 32.53	2 41.032	+ 0 40.77	+ 4.558
	Irene	0.7	13.0	26.2	54 13.30	2 36.474		
	Weisse XV, 864	38.3	51.3	3.5	54 51.03	3 30.260	− 0 37.73	+ 23.722
	Weisse XV, 845	14.8	28.0	40.5	57 27.77	2 40.997	+ 0 41.00	+ 4.457
	Irene	56.0	8.7	21.6	58 8.77	2 36.540		
	Weisse XV, 864	. .	46.5	59.2	58 46.48	3 30.210	− 0 37.71	+ 23.606
	Weisse XV, 845	57.0	9.5	22.0	12 0 9.50	2 41.023	+ 0 40.63	+ 4.462
	Irene	37.5	50.2	2.7	0 50.13	2 36.561		
	Weisse XV, 864	15.7	28.2	41.0	1 28.30	3 30.200	− 0 38.17	+ 23.575
	Weisse XV, 845	52.0	4.3	17.0	4 4.43	2 41.020	+ 0 40.40	+ 4.418
	Irene	32.0	45.0	57.5	4 44.83	2 36.602		
	Weisse XV, 864	10.4	23.1	36.1	5 23.20	3 30.229	− 0 38.37	+ 23.563
	Weisse XV, 845	16.1	39.0	51.2	7 38.77	2 40.991	+ 0 40.26	+ 4.391
	Irene	6.2	19.2	31.7	8 19.03	2 36.600		
	Weisse XV, 864	41.1	57.2	10.0	8 57.03	3 30.149	− 0 38.00	+ 23.485

RESULTS.

Corr. Chron. — 0 m. s. 4.63

	α h. m. s.	δ ° ′ ″
Weisse XV, 864,	15 44 58 09	−14 15 54.60
Weisse XV, 845,	15 43 39.22	−14 11 1.31

Irene—Weisse XV, 864,

		Δα m. s.	Δδ ′ ″
M. T.	11 21 9.13	− 0 36.78	+ 6 6.29
	Δt −	.10	
	Δρ	.00	+ .29
	p +	.07	+ 5.09

Irene—Weisse XV, 845,

		Δα m. s.	Δδ ′ ″
M. T.	11 47 26.09	+ 0 41.14	+ 1 10.95
	Δt +	.11	
	Δρ	.00	+ .06
	p +	.11	+ 5.05

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 10	Irene	6.2	19.0	31.0	10 22 18.73	1 47.270			
	Weisse XV, 845	8.5	21.2	33.5	22 21.07	1 40.872	— 0 2.34	— 6.398	Corr. Chron. + 0 m. s. 7.72
	Weisse XV, 864	27.2	39.7	52.0	23 39.63	2 29.660			α δ
	Irene	29.6	42.6	55.2	26 42.47	1 47.361			h. m. s. ° ′ ″
	Weisse XV, 845	32.0	45.0	57.4	26 44.80	1 40.912	— 0 2.33	— 6.449	Weisse XV, 845, 15 43 39.22 —14 11 1.32
	Weisse XV, 864	51.0	3.7	16.8	27 3.83	2 29.662			Irene—Weisse XV, 845,
	Irene	51.0	4.0	17.0	30 4.00	1 47.424			△α △δ
	Weisse XV, 845	54.0	6.5	19.3	30 6.60	1 40.810	— 0 2.60	— 6.614	h. m. s. m. s. ′ ″
									M. T. 10 29 1.40 — 0 2.58 — 1 40.69
	Irene	30.0	42.6	55.0	31 42.53	1 47.422			Δt — .01
	Weisse XV, 845	32.7	45.0	58.0	31 45.23	1 40.871	— 0 2.70	— 6.551	Δϱ .00 + .08
									p .00 + 5.09
	Irene	28.0	41.0	53.0	33 40.67	1 47.495			
	Weisse XV, 845	31.0	43.6	56.2	33 43.60	1 40.750	— 0 2.93	— 6.745	
									Corr. Chron. — 0 m. s. 10.35
	Irene	49.2	1.8	14.6	16 3 1.89	1 47.218			
	Weisse XV, 845	52.0	4.8	17.7	3 4.84	1 40.620	— 0 2.95	— 6.598	Irene—Weisse XV, 845,
	Irene	20.1	32.6	45.6	4 32.75	1 47.380			△α △δ
	Weisse XV, 845	23.2	35.7	48.6	4 35.82	1 40.412	— 0 3.07	— 6.968	h. m. s. m. s. ′ ″
									Sid. T. 16 12 27.18 — 0 3.30 — 1 44.68
	Irene	47.1	59.5	12.3	5 59.64	1 47.210			Δϱ .00 — .08
	Weisse XV, 845	50.2	2.5	15.6	6 2.75	1 40.590	— 0 3.11	— 6.620	p + .04 + 5.09
	Irene	15.2	28.0	40.6	7 27.93	1 47.438			
	Weisse XV, 845	18.5	31.1	44.0	7 31.13	1 40.576	— 0 3.20	— 6.862	
	Irene	39.4	52.1	4.8	8 52.10	1 47.310			
	Weisse XV, 845	42.7	55.3	7.9	8 55.29	1 40.576	— 0 3.19	— 6.730	
	Irene	34.8	47.4	0.2	15 47.45	1 47.410			
	Weisse XV, 845	38.1	50.8	3.3	15 50.72	1 40.448	— 0 3.27	— 6.962	
	Irene	6.6	19.2	32.1	17 19.29	1 47.231			
	Weisse XV, 845	10.0	22.8	35.6	17 22.82	1 40.530	— 0 3.53	— 6.701	
	Irene	44.7	57.5	10.3	18 57.50	1 47.423			
	Weisse XV, 845	48.1	0.9	13.6	19 0.90	1 40.421	— 0 3.40	— 7.002	
	Irene	26.1	38.8	51.7	20 38.87	1 47.292			
	Weisse XV, 845	29.8	42.2	53.2	20 42.42	1 40.442	— 0 3.65	— 6.850	
	Irene	25.1	38.1	50.6	23 37.92	1 47.266			
	Weisse XV, 845	28.7	41.6	54.4	23 41.57	1 40.452	— 0 3.65	— 6.814	
13	Irene	30.5	43.1	55.9	15 28 43.16	2 34.446			
	Weisse XV, 792	31.7	44.2	57.0	28 44.28	2 33.338	— 0 1.12	— 1.108	Corr. Chron. — 0 m. s. 24.53
	Irene	8.4	21.4	34.1	30 21.29	2 34.362			α δ
	Weisse XV, 792	9.9	22.6	35.4	30 22.59	2 33.578	— 0 1.30	— 0.784	h. m. s. ° ′ ″
									Weisse XV, 792, 15 41 27.93 —14 21 55.46
	Irene	29.9	42.6	55.7	31 42.73	2 34.380			Irene—Weisse XV, 792,
	Weisse XV, 792	31.1	43.7	56.7	31 43.83	2 33.428	— 0 1.10	— 0.952	△α △δ
	Irene	2.9	15.6	28.4	33 15.62	2 34.330			h. m. s. m. s. ′ ″
	Weisse XV, 792	4.4	16.8	29.7	33 16.95	2 33.458	— 0 1.33	— 0.872	Sid. T. 15 37 43.25 — 0 1.41 — 0 14.28
									Δϱ .00 — .01
	Irene	43.3	56.0	9.0	34 56.12	2 34.250			p .00 + 5.04
	Weisse XV, 792	44.8	57.5	10.2	34 57.49	2 33.492	— 0 1.37	— 0.758	
	Irene	17.7	30.3	43.1	36 30.36	2 34.398			
	Weisse XV, 792	19.1	31.6	44.5	36 31.71	2 33.332	— 0 1.35	— 1.066	
	Irene	32.2	45.0	57.6	37 44.98	2 34.340			
	Weisse XV, 792	33.7	46.4	58.9	37 46.32	2 33.330	— 0 1.34	— 1.010	

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 13	Irene	45.0	58.0	10.5	15 39 57.80	2 34.310		
	Weisse XV, 792	46.5	59.1	12.0	39 59.18	2 33.411	— 0 1.38	— 0.899
	Irene	28.2	41.1	53.8	41 41.02	2 34.260		
	Weisse XV, 792	29.9	42.5	55.5	41 42.61	2 33.365	— 0 1.59	— 0.895
	Irene	56.3	8.8	21.5	42 8.89	2 34.060		
	Weisse XV, 792	57.8	10.4	23.3	42 10.52	2 33.119	— 0 1.63	— 0.941
	Irene	25.8	38.5	51.3	44 38.49	2 34.157		
	Weisse XV, 792	27.4	40.0	52.7	44 40.04	2 33.198	— 0 1.55	— 0.959
	Irene	45.3	58.0	10.8	45 58.04	2 34.091		
	Weisse XV, 792	47.1	59.7	12.4	45 59.72	2 33.169	— 0 1 68	— 0.922
	Irene	50.0	2.3	15.5	48 2.61	2 34.079		
	Weisse XV, 792	51.5	4.1	17.1	48 4.21	2 33.170	— 0 1.60	— 0.909
	Irene	37.4	50.3	3.0	16 16 50.23	2 33.970		
	Weisse XV, 792	40.2	52.9	5.5	16 52.87	2 32.648	— 0 2.64	— 1.322
	Irene	38.5	50.9	3.8	18 51.06	2 34.038		
	Weisse XV, 792	41.1	53.5	6.4	18 53.69	2 32.870	— 0 2.63	— 1.168
	Irene	4.4	17.0	30.0	20 17.14	2 33.942		
	Weisse XV, 792	7.3	19.8	31.5	20 19.53	2 32.761	— 0 2.39	— 1.181
	Irene	18.6	31.2	44.1	24 31.32	2 33.375		
	Weisse XV, 792	21.6	34.1	46.9	24 34.19	2 32.145	— 0 2.87	— 1.230
	Irene	0.2	13.1	25.6	26 13.00	2 33.323		
	Weisse XV, 792	3.2	16.0	28.5	26 15.91	2 32.151	— 0 2.91	— 1.172
	Irene	38.3	51.2	3.6	27 51.04	2 33.412		
	Weisse XV, 792	41.4	54.1	6.7	27 54.07	2 31.900	— 0 3.03	— 1.512
	Irene	32.3	44.8	57.6	29 44.88	2 33.424		
	Weisse XV, 792	35.1	47.9	0.8	29 47.95	2 32.000	— 0 3.07	— 1.424
	Irene	51.3	3.8	16.5	30 3.87	2 33.528		
	Weisse XV, 792	54.2	6.7	19.5	30 6.79	2 32.123	— 0 2.92	— 1.405
	Irene	20.8	33.3	46.0	32 33.36	2 33.560		
	Weisse XV, 792	23.4	36.4	49.1	32 36.28	2 32.100	— 0 2.92	— 1.460
	Irene	47.1	59.7	12.4	33 59.71	2 33.519		
	Weisse XV, 792	50.2	2.7	15.6	34 2.83	2 32.205	— 0 3.12	— 1.314
14	Irene	55.1	8.1	21.2	10 5 8 13	2 41.365		
	Weisse XV, 792	37.2	49.6	2.7	5 49.83	2 27.688	— 0 41.70	— 13.677
	Irene	32.3	45.2	58.1	10 45.20	2 41.610		
	Weisse XV, 792	14.0	27.2	39.2	11 26 80	2 27.670	— 0 41.60	— 13.940
	Irene	16.2	28.8	. .	13 28 82	2 41 620		
	Weisse XV, 792	58.0	10.6	23.0	14 10 53	2 27 710	— 0 41.71	— 13.910
	Irene	7.5	20.5	. .	15 20 52	2 41 610		
	Weisse XV, 792	49.3	2.0	15.0	16 2 10	2 27 718	— 0 41.58	— 13.892
	Irene	46.1	59.0	11.5	17 58 87	2 41 530		
	Weisse XV, 792	27.9	40.2	53.0	18 40 37	2 27 791	— 0 41.50	— 13.739
	Irene	14.3	27.2	39.5	20 27 00	2 41 740		
	Weisse XV, 792	55.5	8.0	21.0	21 8 17	2 27 800	— 0 41.17	— 13.940
	Irene	34.2	47.1	0.2	12 1 47 17	2 48 582		
	Weisse XV, 792	19.2	32.0	44.7	2 31 97	2 33 648	— 0 44.80	— 14.934

RESULTS.

Corr. Chron. + 0 m. s. 24.53

	α	δ
Weisse XV, 792,	h. m. s. 15 41 27.93	° ′ ″ —14 21 55.46

Irene—Weisse XV, 792,

		Δα	Δδ
Sid. T.	h. m. s. 16 25 41.03	m. s. — 0 2.85	′ ″ — 0 20.28
		.00	+ .02
		+ .06	+ 5.01

Corr. Chron. — 0 m. s. 12.93

	α	δ
Weisse XV, 792,	h. m. s. 15 41 27.94	° ′ ″ —14 21 55.45

Irene—Weisse XV, 792,

		Δα	Δδ
M. T.	h. m. s. 11 31 27.60	m. s. — 0 43.97	′ ″ — 3 44.06
		Δt — .12	
		Δρ — .00	— .19
		p + .12	+ 4.94

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. June 14	Irene - - - - -	2.2	15.1	28.0	12 9 15.10	2 49.078		
	Weisse XV, 792 - -	48.1	0.3	13.0	10 00.47	2 34.232	— 0 45.37	— 14.846
	Irene - - - - -	9.3	22.0	35 1	12 22.13	2 49.100		
	Weisse XV, 792 - -	53.1	7.6	20.3	13 7.67	2 34.258	— 0 45.54	— 14.842
	Irene - - - -	52.3	4.7	17.3	16 4.77	2 49.069		
	Weisse XV, 792 - -	38.1	50.2	3.3	16 50.53	2 34.000	— 0 45.76	— 15.069
	Irene - - - - -	35.7	48.0	1.2	17 48.30	2 49.055		
	Weisse XV, 792 - -	21.2	34.0	47.1	18 34.10	2 33.988	— 0 45.80	— 15.067
	Irene - - - - -	43.6	56.2	9.1	19 56.30	2 49.020		
	Weisse XV, 792 - -	29.2	42.6	54.3	20 42.03	2 33.970	— 0 45.73	— 15.050
	Irene - - - - -	26.1	39.3	51.7	21 39.03	2 49.052		
	Weisse XV, 792 - -	12.0	24.3	37.5	22 24.60	2 34.042	— 0 45.57	— 15.010
	Irene - - - - -	56.3	9.2	22.0	25 9.17	2 49.070		
	Weisse XV, 792 - -	42.1	54.3	7.1	25 54.50	2 33.920	— 0 45.33	— 15.150
	Irene - - - - -	16.2	29.0	- -	28 29.12	2 49.065		
	Weisse XV, 792 - -	2.0	15.1	27.3	29 14.80	2 33.979	— 0 45.68	— 15.086
	Irene - - - - -	56.0	9.2	21.3	31 8.83	2 48.941		
	Weisse XV, 792 - -	42.3	54.3	7.0	31 54.53	2 33.839	— 0 45.70	— 15.102
15	Irene - - - - -	3.7	16.2	29.2	11 6 16.37	3 35.415		
	Weisse XV, 792 - -	27.1	39.2	52.0	7 39.43	2 37.552	— 1 23.06	— 27.799
	Irene - - - - -	36.2	49.0	1.7	11 48.97	3 35.501		
	Weisse XV, 792 - -	59.3	12.0	24.8	13 12.03	2 37.701	— 1 23.06	— 27.736
	Irene - - - - -	0.4	13.0	- -	16 12.98	3 35.489		
	Weisse XV, 792 - -	23.2	36.5	48.5	17 36.07	2 37.661	— 1 23.09	— 27.764
	Irene - - - - -	20.2	33.0	45.8	19 33.00	3 35.471		
	Weisse XV, 792 - -	43.7	56.5	9.1	20 56.43	2 37.711	— 1 23 43	— 27.696
	Irene - - - - -	42.2	54.1	7.5	21 54.60	3 35.491		
	Weisse XV, 792 - -	4.9	17.6	30.5	23 17.66	2 37.620	— 1 23.06	— 27.807
	Irene - - - - -	51.6	3.9	17.2	24 4.23	3 35.568		
	Weisse XV, 792 - -	15.2	28.1	40.2	25 27.83	2 37.720	— 1 23.60	— 27.784
	Irene - - - - -	59.4	11.8	24.6	26 11.93	3 35.459		
	Weisse XV, 792 - -	23.2	35.7	48.4	27 35.77	2 37.666	— 1 23.84	— 27.729
	Irene - - - - -	28.3	41.0	53.7	29 41.00	3 35.621		
	Weisse XV, 792 - -	52.3	4.1	17.4	31 4.60	2 37.757	— 1 23.60	— 27.800
	Irene - - - - -	41.1	53.0	6.0	32 53.37	3 35.590		
	Weisse XV, 792 - -	5.2	17.6	30.2	34 17.67	2 37.633	— 1 24.30	— 27.893
	Irene - - - - -	3.7	16.1	29.1	35 16.30	3 35.650		
	Weisse XV, 792 - -	27.2	39.6	52.6	36 39.80	2 37.701	— 1 23.50	— 27.885
	Irene - - - - -	35.2	48.2	1.0	37 48.13	3 35.689		
	Weisse XV, 792 - -	59.0	11.4	25.1	39 11.83	2 37.701	— 1 23.70	— 27.924
	Irene - - - - -	4.9	17.3	30.2	40 17.47	3 35.650		
	Weisse XV, 792 - -	29.1	41.0	54.0	41 41.37	2 37.679	— 1 23.90	— 27.907
	Irene - - - - -	12.0	25.2	37.3	45 24.83	3 35.580		
	Weisse XV, 792 - -	36.0	49.0	1.0	46 48.67	2 37.650	— 1 23.84	— 27.866

RESULTS.

Corr. Chron. + 0 m. 13.66 s.

	α	δ
Weisse XV, 792,	h. m. s. 15 41 27.94	° ′ ″ —14 21 55.42

Irene—Weisse XV, 792,

		Δα	Δδ
M. T.	h. m. s. 11 29 20.88	m. s. — 1 23.62	′ ″ — 7 7.75
	Δt	— .22	
	Δϱ	— .01	— .36
	p	+ .12	+ 4.92

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 15	Irene	28.0	40.2	53.0	12 6 40.40	3 35.600			
	Weisse XV, 792	- -	5.0	17.5	8 5.03	2 37.490	− 1 24.63	− 28.046	
	Weisse XV, 838	42.0	54.1	7.2	9 54.43	2 47.779			
17	Weisse XV, 744	52.0	5.2	- -	9 54 5.06	2 54.550	+ 0 6.80	+ 40.099	m. s. Corr. Chron. − 0 15.16
	Irene	- -	12.0	24.2	54 11.86	1 44.630			
	Weisse XV, 744	8.2	20.3	33.0	58 20.50	2 54.658	+ 0 6.20	+ 40.297	α h. m. s. δ ° ′ ″
	Irene	14.0	27.0	39.1	58 26.70	1 44.540			Weisse XV, 744, 15 38 46.17 −14 46 8.47
	Weisse XV, 744	53.0	- -	18.0	10 0 5.50	2 54.605	+ 0 6.36	+ 40.354	Irene—Weisse XV, 744,
	Irene	59.0	12.0	- -	0 11.86	1 44.430			Δα Δδ
	Weisse XV, 744	51.2	- -	16.0	2 3.60	2 54.542	+ 0 5.90	+ 40.203	h. m. s. m. s. ′ ″
	Irene	57.0	9.5	22.0	2 9.50	1 44.518			M. T. 10 8 17.85 + 0 5.92 +10 17.54
									Δt + .02
	Weisse XV, 744	33.0	45.9	58.7	3 45.87	2 54.641	+ 0 5.90	+ 40.360	Δρ .00 + .48
	Irene	39.0	52.0	4.3	3 51.77	1 44.460			p + .02 + 4.95
	Weisse XV, 744	40.1	53.0	5.4	7 52.83	2 54.545	+ 0 6.23	+ 40.095	
	Irene	- -	59.2	11.7	7 59.06	1 44.629			
	Weisse XV, 744	30.2	43.2	56.0	10 43.13	2 54.520	+ 0 5.60	+ 40.067	
	Irene	36.1	49.1	1.0	10 48.73	1 44.632			
	Weisse XV, 744	44.1	56.0	9.0	12 56.37	2 54.660	+ 0 6.00	+ 40.248	
	Irene	49.7	2.2	15.2	13 2.37	1 44.591			
	Weisse XV, 744	28.0	41.3	54.0	14 41.10	2 54.354	+ 0 5.73	+ 39.892	
	Irene	34.0	47.0	59.5	14 46.83	1 44.641			
	Weisse XV, 744	30.2	43.0	55.3	16 42.83	2 54.520	+ 0 5.30	+ 40.189	
	Irene	- -	48.2	1.0	16 48.13	1 44.510			
	Weisse XV, 744	20.2	32.8	45.2	18 32.73	2 54.308	+ 0 5.44	+ 40.022	
	Irene	25.5	38.0	51.0	18 38.17	1 44.465			
	Weisse XV, 744	19.2	32.0	44.7	21 31.97	2 54.465	+ 0 5.60	+ 40.326	
	Irene	25.0	37.5	50.2	21 37.57	1 44.319			
17	Weisse XV, 744	33.2	46.0	58.6	16 10 45.91	2 53.810	+ 0 5.63	+ 39.902	m. s. Corr. Chron. + 0 34.78
	Irene	38.6	51.7	4.4	10 51.54	1 44.087			
	Weisse XV, 744	30.8	43.7	56.2	12 43.57	2 53.916	+ 0 5.59	+ 39.950	α h. m. s. δ ° ′ ″
	Irene	36.5	49.3	1.7	12 49.16	1 44.145			Weisse XV, 744, 15 38 46.17 −14 46 8.47
	Weisse XV, 744	55.8	8.8	21.6	14 8.73	2 53.996	+ 0 5.42	+ 40.031	Irene—Weisse XV, 744,
	Irene	1.5	14.0	27.0	14 14.15	1 44.144			Δα Δδ
	Weisse XV, 744	28.2	40.7	53.3	17 40.54	2 53.980	+ 0 5.59	+ 39.897	h. m. s. m. s. ′ ″
	Irene	33.5	46.1	58.8	17 46.13	1 44.262			Sid. T. 16 20 38.81 + 0 5.33 +10 12.88
									Δρ .00 + .49
	Weisse XV, 744	8.3	20.9	33.7	19 20.96	2 53.947	+ 0 5.27	+ 39.886	p + .06 + 4.93
	Irene	13.5	26.3	38.9	19 26.23	1 44.240			
	Weisse XV, 744	44.9	57.6	10.5	20 57.65	2 53.835	+ 0 5.29	+ 39.851	
	Irene	- -	2.9	15.8	21 2.94	1 44.163			
	Weisse XV, 744	17.1	29.7	42.7	22 29.84	2 53.910	+ 0 5.21	+ 39.939	
	Irene	22.3	35.1	47.8	22 35.05	1 44.150			
	Weisse XV, 744	29.6	42.5	55.2	24 42.44	2 53.754	+ 0 5.07	+ 39.747	
	Irene	34.8	47.5	0.2	24 47.51	1 44.182			
	Weisse XV, 744	53.7	6.2	18.5	27 6.14	2 53.785	+ 0 5.18	+ 39.815	
	Irene	58.6	11.2	24.2	27 11.32	1 44.149			
	Irene	38.4	51.2	4.0	29 51.23	2 53.790	+ 0 5.04	+ 39.741	(Continued.)
	Weisse XV, 744	43.5	56.2	9.2	29 56.27	1 44.228			

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 18	Irene - - - - -	19.2	32.0	45.0	10 17 32.07	2 28.422		
	Weisse XV, 744 - -	49.0	0.7	13.1	18 0.93	3 24.609	— 0 28.86	+ 26.123
	Irene - - - - -	45.2	58.1	11.0	19 58.10	2 28.485		
	Weisse XV, 744 - -	13.2	26.8	39.6	20 26.53	3 24.620	— 0 28.43	+ 26.071
	Irene - - - - -	9.5	22.3	35.0	22 22.27	2 28.530		
	Weisse XV, 744 -	38.5	51.0	4.0	22 51.17	3 24.652	— 0 28.90	+ 26.058
	Irene - - - - -	10.2	22.7	35.3	25 22.73	2 28.742		
	Weisse XV, 744 - -	- -	51.7	4.0	25 51.79	3 24.890	— 0 29.06	+ 26.084
	Irene - - - - -	37.2	49.7	2.7	27 49.87	2 28.785		
	Weisse XV, 744 - -	6.0	18.5	31.2	28 18.57	3 24.938	— 0 28.70	+ 26.089
	Irene - - - - -	4.6	17.3	30.0	29 17.30	2 28.970		
	Weisse XV, 744 - -	- -	46.1	58.7	29 46.19	3 25.030	— 0 28.89	+ 25.996
18	Irene - - - - -	23.2	36.0	48.7	16 22 35.98	2 29.360		
	Weisse XV, 744 - -	52.7	5.2	18.0	23 5.33	3 25.336	— 0 29.35	+ 25.912
	Irene - - - - -	57.0	9.9	22.6	25 9.86	2 29.268		
	Weisse XV, 744 - -	26.1	38.9	52.0	25 38.99	3 25.202	— 0 29.13	+ 25.870
	Irene - - - - -	26.9	39.7	52.6	29 39.73	2 29.250		
	Weisse XV, 744 - -	56.4	9.2	22.0	30 9.19	3 25.228	— 0 29.46	+ 25.914
	Irene - - - - -	35.7	48.6	1.2	31 48.51	2 29.272		
	Weisse XV, 744 -	5.3	17.8	30.8	32 17.95	3 25.149	— 0 29.44	+ 25.813
	Irene - - - - -	45.2	57.9	10.5	33 57.84	2 29.318		
	Weisse XV, 744 - -	14.7	27.4	40.1	34 27.41	3 25.310	— 0 29.57	+ 25.928
	Irene - - - -	12.9	25.6	38.3	36 25.57	2 29.372		
	Weisse XV, 744 - -	42.4	55.0	7.9	36 55.09	3 25.373	— 0 29.52	+ 25.937
	Irene - - - - -	22.4	35.1	47.9	38 35.15	2 29.387		
	Weisse XV, 744 -	51.9	4.6	17.5	39 4.68	3 25.229	— 0 29.53	+ 25.778
	Irene - - - - -	24.9	37.7	50.4	40 37.60	2 29.450		
	Weisse XV, 744 - -	54.8	7.4	20.2	41 7.48	3 25.230	— 0 29.88	+ 25.716
	Irene - - - - -	15.5	28.1	41.0	43 28.19	2 29.472		
	Weisse XV, 744 - -	45.4	58.0	10.8	43 58.06	3 25.220	— 0 29.87	+ 25.684
	Irene - - - - -	15.5	28.0	41.0	45 28.16	2 29.541		
	Weisse XV, 744 - -	45.3	58.0	10.5	45 57.90	3 25.178	— 0 29.74	+ 25.573
19	Irene - - - - -	42.0	55.2	- -	10 19 55.15	2 43.559		
	Weisse XV, 744 - -	44.1	57.5	9.5	20 57.03	2 55.328	— 1 1.88	+ 11.769
	Irene - - - - -	58.2	10.9	23.2	21 10.77	2 43.659		
	Weisse XV, 744 - -	59.0	12.2	25.0	22 12.07	2 55.312	— 1 1.30	+ 11.653
	Irene - - - - -	57.7	10.5	23.0	24 10.40	2 43.591		
	Weisse XV, 744 - -	59.6	12.2	25.1	25 12.30	2 55.249	— 1 1.90	+ 11.658
	Irene - - - - -	28.1	40.5	53.1	26 40.57	2 43.693		
	Weisse XV, 744 - -	29.6	42.4	54.7	27 42.23	2 55.230	— 1 1.66	+ 11.537
	Irene - - - - -	48.1	0.2	13.2	29 0.05	2 43.781		
	Weisse XV, 744 - -	49.2	2.7	15.0	30 2.30	2 55.290	— 1 2.25	+ 11.509
	Irene - - - - -	37.2	49.7	2.0	31 49.63	2 43.640		
	Weisse XV, 744 - -	39.2	51.2	4.7	32 51.70	2 55.300	— 1 2.07	+ 11.660

RESULTS.

June 18 — m. s. Corr. Chron. — 0 15.82

	α	δ
	h. m. s.	° ′ ″
Weisse XV, 744,	15 38 46.17	—14 46 8.47

Irene—Weisse XV, 744,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 23 27.90	+ 0 28.81	+ 6 40.69
	Δt +	.08	
	Δϱ	.00	+ .32
	p +	.04	+ 4.91

18 — m. s. Corr. Chron. + 0 36.21

	α	δ
	h. m. s.	° ′ ″
Weisse XV, 744,	15 38 46.17	—14 46 8.47

Irene—Weisse XV, 744,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	16 35 22.87	— 0 29.55	+ 6 36.72
	Δϱ	.00	+ .32
	p +	.08	+ 4.89

19 — m. s. Corr. Chron. — 0 16.78

	α	δ
	h. m. s.	° ′ ″
Weisse XV, 744,	15 38 46.16	—14 46 8.46

Irene—Weisse XV, 744,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 25 10.98	— 1 1.84	+ 2 58.76
	Δt —	.16	
	Δϱ	.00	+ .14
	p +	.05	+ 4.88

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 24	Weisse XV, 637	45.5	58.0	10.6	16 20 58.03	3 39.205	+ 2 3.81	+ 7.510
	Weisse XV, 644	- -	19.1	32.3	21 19.06	3 41.500	+ 1 42.78	+ 9.805
	Irene	49.3	1.9	14.3	23 1.84	3 31.695		
	Weisse XV, 637	18.4	31.3	43.8	25 31.18	3 39.185	+ 2 4.11	+ 7.463
	Weisse XV, 644	- -	52.7	5.3	25 52.61	3 41.271	+ 1 42.68	+ 9.550
	Irene	22.5	35.4	48.0	27 35.29	3 31.721		
25	Weisse XV, 637	0.6	13.2	26.2	15 39 13.34	2 38.560	+ 0 41.90	— 7.970
	Irene	- -	- -	8.0	39 55.24	2 46.530		
	Weisse XV, 637	59.3	11.9	- -	43 11.99	2 38.670	+ 0 42.09	— 7.941
	Irene	41.4	54.0	6.8	43 54.08	2 46.611		
July 2	Irene	32.0	45.0	57.6	9 8 44.87	2 46.803		
	5184 B.A.C.	47.2	59.2	12.0	9 59.47	1 56.719	— 1 14.60	— 20.263
	Irene	39.0	52.0	5.0	11 52.00	2 47.078		
	5184 B.A.C.	54.0	6.5	19.2	13 6.57	1 56.791	— 1 14.57	— 20.406
	Irene	6.2	19.2	32.0	14 19.13	2 46.996		
	5184 B.A.C.	21.2	34.2	46.8	15 34.07	1 56.721	— 1 14.90	— 20.454
	Irene	16.4	29.2	42.0	16 29.20	2 46.940		
	5184 B.A.C.	31.3	44.0	56.5	17 43.93	1 56.765	— 1 14.73	— 20.354
	Irene	38.0	51.0	3.5	18 50.83	2 47.032		
	5184 B.A.C.	52.5	5.3	18.0	20 5.27	1 56.780	— 1 14.44	— 20.431
	Irene	39.1	51.3	4.0	24 51.47	2 47.111		
	5184 B.A.C.	53.2	6.0	19.0	26 6.07	1 56.840	— 1 14.60	— 20.450
	Irene	0.8	13.0	26.0	58 13.26	2 47.892		
	5184 B.A.C.	15.2	28.2	41.0	59 28.13	1 57.371	— 1 14.87	— 20.700
	Irene	25.0	38.1	51.0	10 3 38.03	2 48.070		
	5184 B.A.C.	40.0	53.0	6.0	4 53.00	1 57.148	— 1 14.97	— 21.101
	Irene	42.7	55.0	8.0	6 55.23	2 47.978		
	5184 B.A.C.	57.5	10.2	23.0	8 10.23	1 57.246	— 1 15.00	— 20.911
	Irene	51.3	4.2	17.2	10 4.23	2 47.966		
	5184 B.A.C.	6.0	19.0	32.6	11 19.20	1 57.142	— 1 14.97	— 21.003
	Irene	9.2	22.5	35.0	15 22.23	2 48.001		
	5184 B.A.C.	24.2	37.0	49.7	16 36.97	1 57.233	— 1 14.74	— 20.946
	Irene	16.2	28.2	41.2	19 28.53	2 48.140		
	5184 B.A.C.	31.2	43.3	56.3	20 43.60	1 57.283	— 1 15.07	— 21.036
	Irene	54.2	6.3	19.3	22 6.60	2 48.152		
	5184 B.A.C.	9.0	21.7	34.3	23 21.67	1 57.259	— 1 15.07	— 21.072
4	Irene	38.9	51.0	4.3	9 58 51.40	3 35.938		
	5184 B.A.C.	9.2	21.5	34.7	10 0 21.80	1 58.986	— 1 30.40	— 57.067
	Irene	51.5	4.3	17.3	2 4.37	3 35.923		
	5184 B.A.C.	22.1	34.7	47.2	3 34.67	1 38.948	— 1 30.30	— 57.090
	Irene	29.7	42.5	55.3	4 42.50	3 35.992		
	5184 B.A.C.	0.4	13.3	26.2	6 13.30	1 38.871	— 1 30.80	— 57.236
	Irene	56.1	9.2	21.7	7 9.00	3 35.925		
	5184 B.A.C.	27.4	39.8	52.6	8 39.93	1 38.892	— 1 30.93	— 57.148
	Irene	59.3	12.1	25.0	10 12.13	3 35.960		
	5184 B.A.C.	30.3	43.0	55.7	11 43.00	1 38.812	— 1 30.87	— 57.263

RESULTS.

m. s.
Corr. Chron. + 0 43.20

	α	δ
	h. m. s.	° ′ ″
Weisse XV, 637,	15 33 19.88	—15 4 34.07
Weisse XV, 644,	15 33 41.39	—15 5 5.29

Irene—Weisse XV, 637,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	16 26 1.76	+ 2 3.96	+ 1 55.06
	Δρ	.00	+ .09
	p	+ .07	+ 4.76

Irene—Weisse XV, 644,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	16 26 1.76	1 42.73	+ 2 28.75
	Δρ	.00	+ .12
	p	+ .07	+ 4.76

m. s.
Corr. Chron. + 0 43.92

	α	δ
	h. m. s.	° ′ ″
Weisse XV, 637,	15 33 19.89	—15 4 34.05

Irene—Weisse XV, 637,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	15 42 38.58	+ 0 42.00	— 2 2.27
	Δρ	.00	— .10
	p	+ .11	+ 4.74

m. s.
Corr. Chron. — 0 38.65

	α	δ
	h. m. s.	° ′ ″
5184 B.A.C.,	15 34 25.46	—15 31 55.45

Irene—5184 B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 44 48.70	— 1 14.81	— 5 18.18
	Δt	— .20	
	Δρ	.00	— .26
	p	— .01	+ 4.56

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 4	Irene	25.1	38.2	50.9	10 12 38.07	3 35.900		
	5184, B.A.C.	53.8	8.7	21.3	14 8.60	1 38.751	— 1 30.53	— 57.264
	Irene	44.2	56.8	9.7	14 56.90	3 35.932		
	5184, B.A.C.	15.6	27.3	40.2	16 27.70	1 38.722	— 1 30.80	— 57.325
	Irene	18.3	31.0	43.7	17 31.00	3 35.908		
	5184, B.A.C.	49.2	1.7	14.6	19 1.83	1 38.778	— 1 30.83	— 57.245
	Irene	41.4	54.1	7.3	20 54.27	3 35.891		
	5184, B.A.C.	12.5	25.2	38.1	22 25.27	1 38.629	— 1 31.00	— 57.377
	Irene	8.8	21.0	34.0	23 21.27	3 35.866		
	5184, B.A.C.	39.0	52.2	5.0	24 52.07	1 38.622	— 1 30.80	— 57.359
	Irene	37.7	50.0	3.0	26 50.23	3 35.881		
	5184, B.A.C.	8.5	21.2	34.2	28 21.30	1 38.619	— 1 31.07	— 57.377
	Irene	28.3	41.0	54.0	29 41.10	3 35.873		
	5184, B.A.C.		12.5	25.0	31 12.57	1 38.558	— 1 31.47	— 57.430
	Irene	0.3	12.7	25.7	32 12.90	3 35.989		
	5184, B.A.C.	31.2	43.7	56.2	33 43.70	1 38.590	— 1 30.80	— 57.514
	Irene	39.2	52.3	5.0	34 52.17	3 35.992		
	5184, B.A.C.	10.2	23.1	35.7	36 23.00	1 38.493	— 1 30.83	— 57.614
5	(* 5) W.	33.9	46.5	59.0	15 53 46.46	2 41.978	+ 0 15.08	— 18.031
	Irene	48.5	1.4	14.7	54 1.54	2 60.009		
	(* 5) W.	29.5	42.3	55.2	55 42.33	2 41.873	+ 0 14.90	— 18.128
	Irene	44.4	57.1	10.2	55 57.23	2 60.001		
	(* 5) W.	59.5	12.5	25.1	57 12.36	2 41.601	+ 0 15.07	— 18.169
	Irene	14.7	27.5	40.0	57 27.43	2 59.770		
	(* 5) W.	38.4	51.1	3.7	16 3 51.09	2 41.851	+ 0 14.75	— 18.399
	Irene	53.1	5.8	18.7	4 5.84	2 60.250		
	(* 5) W.	56.6	9.4	22.2	5 9.39	2 41.775	+ 0 14.90	— 18.514
	Irene	11.4	24.3	37.2	5 24.29	2 60.289		
	(* 5) W.	46.2	58.7	11.7	7 58.87	2 41.735	+ 0 14.87	— 18.603
	Irene	1.1	13.6	26.5	8 13.74	2 60.338		
	(* 5) W.	45.1	58.1	11.0	9 58.08	2 41.707	+ 0 14.73	— 18.532
	Irene	0.1	12.6	25.8	10 12.81	2 60.233		
	(* 5) W.	44.0	57.7	10.3	11 57.33	2 41.695	+ 0 15.21	— 18.656
	Irene	59.7	12.4	25 5	12 12.54	2 60.351		
	(* 5) W.	59.4	11.9	24.8	14 12.05	2 41.781	+ 0 14.93	— 18.515
	Irene	14.3	26.9	39.7	14 26.98	2 60.296		
	(* 5) W.	55.2	8.3	21.1	16 8.27	2 41.932	+ 0 14.75	— 18.439
	Irene	10.3	23.0	35.8	16 23.02	2 60.371		
13	Irene	33.2	46.0	59.0	17 50 46.06	2 38.888		
	28617, Lalande	55.5	8.6	21.5	53 8.52	1 38.670	— 2 22.46	— 30.397
	Irene	43.2	55.9	9.0	54 56.04	2 38.810		
	28617, Lalande	5.8	18.5	31.3	57 18.52	1 38.690	— 2 22.48	— 30.299
	Irene	15.2	28.2	40.9	58 28.08	2 38.935		
	28617, Lalande	37.8	50.9	3.9	18 0 50.86	1 38.709	— 2 22.78	— 30.405

RESULTS.

Corr. Chron. — 0 m. s. 42.05

	a	δ
	h. m. s.	° ′ ″
5184 B.A.C.,	15 34 25.45	−15 31 55.41

Irene—5184 B.A.C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 16 9.19	— 1 30.82	−14 40.80
	Δt	— .24	
	Δϱ	— .02	— .82
	p	+ .12	+ 4.42

Corr. Chron. + 0 m. s. 17.01

	a	δ
	h. m. s.	° ′ ″
(* 5) W.	15 32 34.54	−15 46 31.86

Irene—(* 5) W.,

		△a	△δ
	h. m. s.	m. s.	′ ″
Sid. T.	10 6 7.55	+ 0 14.92	— 4 42.79
	Δϱ	.00	— .26
	p	+ .11	+ 4.40

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 13	Irene	35.2	47.9	0.9	18 1 47.98	2 38.862		
	28617, Lalande	57.4	10.4	23.5	4 10.45	1 38.741	— 2 22.47	— 30.300
	Irene	19.1	32.2	44.6	5 31.97	2 39.040		
	28617, Lalande	41.7	54.7	7.6	7 54.64	1 38.732	— 2 22.67	— 30.487
	Irene	9.0	21.6	. .	9 21.56	2 38.962		
	28617, Lalande	31.3	44.3	57.1	11 44.23	1 38.610	— 2 22.67	— 30.531
	Irene	35.3	48.2	1.2	12 48.24	2 38.938		
	28617, Lalande	57.8	10.9	23.6	15 10.78	1 38.520	— 2 22.54	— 30.597
	Irene	2.1	15.4	27.6	20 15.01	2 39.000		
	28617, Lalande	24.3	37.3	50.1	22 37.24	1 38.406	— 2 22.23	— 30.773
	Irene	35.5	48.6	1.3	23 48.46	2 38.902		
	28617, Lalande	57.9	10.5	24.0	26 10.89	1 38.320	— 2 22.43	— 30.761
	Irene	55.6	8.1	21.3	27 8.34	2 38.888		
	28617, Lalande	17.8	30.5	43.7	29 30.63	1 38.255	— 2 22.29	— 30.812
	Irene	10.9	23.1	36.7	33 23.57	2 38.585		
	28617, Lalande	33.3	46.2	59.3	35 46.25	1 37.945	— 2 22.68	— 30.819
	Irene	3.1	15.8	28.7	37 15.86	2 38.570		
	28617, Lalande	25.0	38.1	51.0	39 38.03	1 37.810	— 2 22.17	— 30.939
17	(* 6) W.	39.0	51.0	. .	9 34 51.08	2 60.489	+ 0 15.00	+ 5.009
	Irene	54.0	6.0	. .	35 6.08	2 55.480		
	(* 7) W.	5.0	. .	31.0	35 18.00	1 54.580	— 0 11.92	— 31.079
	(* 6) W.	39.2	52.0	. .	38 52.08	2 60.332	+ 0 14.92	+ 4.967
	Irene	54.0	. .	20.0	38 7.00	2 55.365		
	(* 7) W.	6.0	19.0	32.2	39 19.07	1 54.518	— 0 12.07	— 31.026
	(* 6) W.	31.5	44.0	. .	41 44.08	2 60.562	+ 0 14.67	+ 5.091
	Irene	46.5	. .	11.0	41 58.75	2 55.471		
	(* 7) W.	. .	11.2	24.0	42 11.28	1 54.531	— 0 12.53	— 31.119
	(* 6) W.	57.2	10.0	. .	44 10.08	2 60.429	+ 0 15.49	+ 4.878
	Irene	13.2	25.0	38.5	44 25.57	2 55.551		
	(* 7) W.	24.0	37.0	49.7	44 36.90	1 54.483	— 0 11.33	— 31.247
	(* 6) W.	35.2	48.0	. .	46 48.08	2 60.389	+ 0 15.79	+ 4.983
	Irene	51.0	4.2	16.4	47 3.87	2 55.406		
	(* 7) W.	3.0	15.0	28.0	47 15.33	1 54.412	— 0 11.46	— 31.173
	(* 6) W.	4.0	17.0	. .	50 17.08	2 59.690	+ 0 15.12	+ 4.865
	Irene	19.3	32.3	45.0	50 32.20	2 54.825		
	(* 7) W.	31.0	44.6	57.1	50 44.23	1 53.701	— 0 12.03	— 31.303
	(* 6) W.	50.0	3.0	. .	53 3.08	2 59.520	+ 0 15.52	+ 4.757
	Irene	6.0	18.5	31.3	53 18.60	2 54.763		
	(* 7) W.	17.2	30.0	43.1	53 30.10	1 53.661	— 0 11.50	— 31.281
	(* 6) W.	20.2	33.0	. .	55 33.08	2 59.621	+ 0 15.49	+ 4.761
	Irene	36.2	48.3	1.2	55 48.57	2 54.860		
	(* 7) W.	47.0	0.0	13.1	56 0.37	1 53.559	— 0 11.80	— 31.480
	(* 6) W.	16.3	29.0	. .	58 29.08	2 59.570	+ 0 15.35	+ 4.850
	Irene	32.0	44.2	57.1	58 44.43	2 54.720		
	(* 7) W.	43.0	56.0	9.0	58 56.00	1 53.650	— 0 11.57	— 31.249
	(* 6) W.	42.0	55.0	.	10 0 55.08	2 59.522	+ 0 15.65	+ 4.697
	Irene	58.2	11.0	23.0	1 10.73	2 54.825		
	(* 7) W.	9.0	22.5	35.0	1 22.17	1 53.479	— 0 11.44	— 31.525

RESULTS.

Corr. Chron. + 0 m. s. 36.27

	a (h. m. s.)	δ (° ′ ″)
28617, Lalande	15 35 32.16	−16 23 36.28

Irene—28617, Lalande

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 18 13 33.87		— 2 22.49	— 7 50.20
	Δρ	— .03	— .61
	p	+ .18	+ 3.87

Corr. Chron. — 1 m. s. 10.13

	a (h. m. s.)	δ (° ′ ″)
(* 6) W.	15 33 17.01	−17 2 45 27
(* 7) W.	15 33 44.07	−16 53 34 18

Irene—(* 6) W.

		Δa (m. s.)	Δδ (′ ″)
M. T. 9 50 45.07		+ 0 15.33	+ 1 14.63
	Δt	+ .04	
	Δρ	.00	+ .08
	p	+ .13	+ 3.89

Irene—(* 7) W.

		Δa (m. s.)	Δδ (′ ″)
M. T. 9 50 45.07		— 0 11.79	— 8 0.92
	Δt	— .03	
	Δρ	— .02	— .52
	p	+ .13	+ 3.89

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 17	(6 *) W.	45.1	57.5	- -	10 6 37.58	2 59.548	+ 0 15.42	+ 4.821
	Irene	- -	- -	26.0	7 13.00	2 54.727		
	(7 *) W.	- -	25.0	37.2	7 25.08	1 53.468	— 0 12.08	— 31.438
	(6 *) W.	5.8	18.0	- -	9 18.08	2 59.389	+ 0 15.49	+ 4.588
	Irene	21.2	33.7	45.8	9 33.57	2 54.801		
	(7 *) W.	32.8	45.0	58.2	9 45.33	1 53.420	— 0 11.76	— 31.560
20	28453, Lalande	34.6	47.2	0.2	12 47.33	3 49.149	+ 4 38.74	+ 5.937
	Irene	13.2	26.0	39.0	17 26.07	3 43.212		
	28453, Lalande	45.2	57.8	11.1	18 58.03	3 49.129	+ 4 39.29	+ 5.804
	Irene	- -	37.2	- -	23 37.32	3 43.325		
	28453, Lalande	59.7	12.5	25.6	26 12.60	3 48.921	+ 4 39.00	+ 5.641
	Irene	39.2	51.6	4.0	31 51.60	3 43.280		
	28453, Lalande	22.2	35.0	48.0	34 35.07	3 48.728	+ 4 38.53	+ 5.720
	Irene	0.8	13.0	27.0	39 13.60	3 43.008		
	28453, Lalande	13.7	26.5	39.5	42 26.57	3 48.449	+ 4 38.96	+ 5.539
	Irene	53.2	5.2	18.2	47 5.53	3 42.910		
	28453, Lalande	38.5	51.3	4.0	49 51.27	3 48.072	+ 4 40.15	+ 5.454
	Irene	- -	30.9	43.0	54 31.42	3 42.618		
	28453, Lalande	48.2	1.0	14.0	11 1 1.07	3 47.315	+ 4 38.90	+ 5.263
	Irene	27.2	39.7	53.0	5 39.97	3 42.052		
21	28453, Lalande	54.6	7.4	19.9	17 7 7.30	1 35.982	+ 4 59.93	— 14.587
	(8 *) W.	16.6	29.6	42.6	11 29.44	1 46.869	+ 0 37.79	— 3.700
	Irene	54.5	- -	- -	12 7.23	1 50.569		
	28453, Lalande	54.6	7.3	20.2	17 7.38	1 36.013	+ 5 0.06	— 14.648
	(8 *) W.	16.6	- -	42.4	21 29.46	1 46.789	+ 0 37.98	— 3.872
	Irene	54.7	- -	20.2	22 7.44	1 50.661		
	28453, Lalande	22.6	35.7	48.5	24 35.59	1 35.841	+ 5 0.11	— 15.060
	(8 *) W.	44.7	57.9	- -	28 57.94	1 46.749	+ 0 37.76	— 4.152
	Irene	22.9	35.8	48.4	29 35.70	1 50.901		
	28453, Lalande	45.4	58.5	11.4	32 58.45	1 36.528	+ 5 0.25	— 14.847
	(8 *) W.	7.6	- -	33.4	37 20.51	1 47.320	+ 0 38.19	— 4.055
	Irene	45.6	58.8	11.7	37 58.70	1 51.375		
	(8 *) W.	7.2	20.2	- -	50 20.15	1 47.272	+ 0 38.39	— 4.170
	Irene	45.7	58.5	11.4	50 58.54	1 51.442		
	(8 *) W.	18.4	31.2	44.2	54 31.28	1 47.242	+ 0 38.29	— 4.250
	Irene	56.6	9.6	22.5	55 9.57	1 51.492		
	(8 *) W.	4.8	17.5	30.7	57 17.66	1 47.185	+ 0 38.70	— 4.190
	Irene	43.8	56.3	9.0	57 56.36	1 51.375		
	(8 *) W.	55.3	8.2	- -	18 0 8.14	1 47.210	+ 0 38.39	— 4.358
	Irene	33.7	46.6	59.3	0 46.53	1 51.568		
	(8 *) W.	7.9	20.7	- -	3 20.65	1 47.202	+ 0 38.76	— 4.381
	Irene	46.3	59.4	12.5	3 59.41	1 51.583		
22	(8 *) W.	29.4	42.5	- -	16 59 42.54	2 16.355	+ 1 0.38	— 25.093
	Irene	30.3	42.9	- -	17 0 42.92	3 11.512		
	(8 *) W.	14.8	27.5	41.9	1 28.07	2 16.450	+ 1 0.05	— 25.091
	Irene	15.2	28.1	41.1	2 28.12	3 11.605		

RESULTS.

m. s.
Corr. Chron. + 0 42.72

	α (h. m. s.)	δ (° ′ ″)
28453, Lalande,	15 30 15.05	—17 10 18.57

Irene—28453, Lalande,

		Δα (m. s.)	Δδ (′ ″)
M. T.	10 40 37.79	+ 4 39.08	— 1 26.42
	Δt	+ .77	
	Δϱ	+ .01	+ .14
	p	+ .18	+ 3.64

m. s.
Corr. Chron. + 1 0.79

	α (h. m. s.)	δ (° ′ ″)
28453, Lalande,	15 30 15.04	—17 10 18.53
(8 *) W.,	15 34 37.23	—17 12 59.07

Irene—28453, Lalande,

		Δα (m. s.)	Δδ (′ ″)
Sid. T.	17 26 28.06	+ 5 0.09	— 3 47.24
	Δϱ	— .01	— .24
	p	+ .12	+ 3.81

Irene—(8 *) W.,

		Δα (m. s.)	Δδ (′ ″)
Sid. T.	17 44 25.18	+ 0 38.25	+ 1 3.40
	Δϱ	.00	— .07
	p	+ .14	+ 3.76

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 22	(* 8) W.	10.4	23.0	36.2	17 3 23.20	2 16.265	+ 1 0.40	− 25.310
	Irene	10.9	23.3	36.6	4 23.60	3 11.639		
	(* 8) W.	27.0	40.1	52.7	5 39.93	2 16.360	+ 1 0.75	− 25.277
	Irene	27.6	40.6	53.8	6 40.63	3 11.701		
	(* 8) W.	24.8	37.6	50.6	8 37.63	2 16.318	+ 1 0.80	− 25.193
	Irene	25.3	38.5	51.5	9 38.43	3 11.575		
	(* 8) W.	39.4	52.7	5.4	10 52.48	2 16.260	+ 1 0.80	− 25.264
	Irene	40.5	53.2	6.2	11 53.28	3 11.588		
	(* 8) W.	53.6	7.1	19.1	14 6.57	2 16.248	+ 1 0.69	− 25.398
	Irene	54.3	7.3	20.0	14 7.26	3 11.710		
	(* 8) W.	48.3	0.9	13.8	17 1.00	2 16.360	+ 1 0.99	− 25.230
	Irene	49.7	- -	14.3	18 1.99	3 11.654		
	(* 8) W.	24.3	37.3	50.4	21 37.33	2 16.228	+ 1 0.96	− 25.308
	Irene	25.5	38.2	51.2	22 38.29	3 11.600		
	(* 8) W.	0.3	13.1	26.0	24 13.15	2 16.065	+ 1 0.83	− 25.441
	Irene	1.0	13.8	27.2	25 13.98	3 11.570		
	(* 8) W.	6.6	- -	32.3	26 19.47	2 16.170	+ 1 0.95	− 25.467
	Irene	7.7	20.2	33.4	27 20.42	3 11.701		
	(* 8) W.	44.3	57.2	10.2	28 57.22	2 16.089	+ 1 0.86	− 25.597
	Irene	45.4	58.1	10.8	29 58.08	3 11.750		
25	Irene	13.2	- -	39.0	10 7 26.10	1 46.072		
	28726, Lalande	7.5	19.5	32.0	9 19.67	1 49.480	− 1 53.57	+ 3.408
	Irene	35.0	48.0	0.7	13 47.90	1 45.941		
	28726, Lalande	29.1	41.7	54.3	15 41.70	1 49.108	− 1 53.80	+ 3.167
	Irene	39.0	51.7	4.7	16 51.80	1 45.810		
	28726, Lalande	32.7	45.2	58.0	18 45.30	1 49.103	− 1 53.50	+ 3.293
	Irene	32.3	45.1	57.9	19 45.10	1 45.749		
	28726, Lalande	25.4	38.2	51.3	21 38.30	1 48.975	− 1 53.20	+ 3.226
	Irene	29.5	42.0	55.0	22 42.17	1 45.869		
	28726, Lalande	23.1	35.6	48.2	24 35.63	1 48.807	− 1 53.46	+ 2.938
	Irene	41.2	54.1	7.0	25 54.10	1 45.453		
	28726, Lalande	34.6	47.1	0.2	27 47.30	1 48.548	− 1 53.20	+ 3.095
	Irene	58.2	- -	24.0	30 11.10	1 45.230		
	28726, Lalande	51.7	4.3	17.3	32 4.43	1 48.278	− 1 53.33	+ 3.048
	Irene	17.6	30.3	43.0	33 30.30	1 45.198		
	28726, Lalande	11.0	- -	37.1	35 24.05	1 48.070	− 1 53.75	+ 2.872
	Irene	17.2	29.4	42.0	37 29.53	1 44.938		
	28726, Lalande	10.0	22.2	35.3	39 22.50	1 47.772	− 1 52.97	+ 2.834
	Irene	32.0	44.7	- -	40 44.81	1 44.758		
	28726, Lalande	25.2	38.1	51.2	42 38.16	1 47.459	− 1 53.35	+ 2.701
28	Irene	15.8	28.8	42.7	16 49 29.11	3 40.910		
	28726, Lalande	- -	52.4	- -	49 52.46	1 38.818	− 0 23.35	− 62.207
	Irene	25.7	38.5	51.9	52 38.71	3 40.962		
	28726, Lalande	49.1	1.9	14.7	53 1.89	1 38.741	− 0 23.18	− 62.336

RESULTS.

Corr. Chron. + 1 m. s. 4.80

	α	δ
	h. m. s.	° ′ ″
(* 8) W.,	15 34 37.41	−17 12 59.46

Irene—(* 8) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	17 15 30.39	+ 0 1.07	− 6 28.94
	Δϱ	− .01	− .40
	p	+ .11	+ 3.81

Corr. Chron. + 0 m. s. 40.84

	α	δ
	h. m. s.	° ′ ″
28726, Lalande,	15 38 51.27	−17 37 25.22

Irene—28726, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 25 31.13	− 1 53.41	+ 0 47.00
	Δt	.00	
	Δϱ	.00	+ .08
	p	+ .18	+ 3.53

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. July 28	Irene	53.4	6.2	19.7	17 59 6.44	3 40.928		
	28726, Lalande	- -	29.7	42.7	59 29.79	1 38.530	— 0 23.35	— 62.513
	Irene	40.1	53.0	5.9	18 2 52.83	3 40.940		
	28726, Lalande	3.1	- -	29.5	3 16.31	1 38.524	— 0 23.48	— 62.531
	Irene	2.3	- -	28.2	6 15.20	3 41.012		
	28726, Lalande	25.5	38.5	51.5	6 38.47	1 38.458	— 0 23.27	— 62.669
	Irene	52.4	5.2	18.9	10 5.53	3 41.032		
	28726, Lalande	15.2	28.3	41.4	10 28.31	1 38.491	— 0 22.78	— 62.656
	Irene	32.5	45.4	58.5	15 45.47	3 41.220		
	28726, Lalande	55.4	8.5	21.5	16 8.46	1 38.560	— 0 22.99	— 62.775
	Irene	36.6	49.5	1.8	18 49.29	3 41.198		
	28726, Lalande	59.4	12.5	25.5	19 12.46	1 38.621	— 0 23.17	— 62.692
	Irene	35.4	48.1	0.9	21 48.13	3 41.210		
	28726, Lalande	58.2	11.1	- -	22 11.17	1 38.489	— 0 23.04	— 62.836
Aug. 1	28766, Lalande	33.5	47.1	59.8	16 16 46.78	2 28.279	+ 0 12.19	— 6.839
	Irene	46.1	58.8	12.1	16 58.97	2 35.118		
	28766, Lalande	13.2	26.2	39.1	18 26.17	2 28.218	+ 0 12.20	— 6.852
	Irene	25.6	- -	51.2	18 38.37	2 35.070		
	28766, Lalande	58.9	12.0	24.9	20 11.94	2 28.172	+ 0 12.41	— 6.818
	Irene	11.3	24.4	- -	20 24.35	2 34.990		
	28766, Lalande	35.9	48.7	- -	21 48.69	2 28.141	+ 0 13.04	— 6.997
	Irene	48.1	1.8	- -	22 1.73	2 35.138		
	28766, Lalande	8.8	21.6	34.5	23 21.61	2 28.158	+ 0 12.31	— 6.963
	Irene	21.0	33.8	46.9	23 33.92	2 35.121		
	28766, Lalande	39.1	52.0	5.0	24 52.02	2 28.140	+ 0 12.28	— 7.000
	Irene	51.3	4.3	17.3	25 4.30	3 35.140		
	28766, Lalande	43.1	55.9	9.1	26 56.06	2 28.168	+ 0 12.28	— 6.943
	Irene	55.1	8.5	21.4	27 8.34	3 35.111		
	28766, Lalande	8.3	21.5	- -	28 21.40	2 28.172	+ 0 12.32	— 7.007
	Irene	20.5	34.3	46.4	28 33.72	3 35.179		
	28766, Lalande	55.4	8.2	21.2	30 8.23	2 28.130	+ 0 12.21	— 6.971
	Irene	- -	20.5	33.7	30 20.44	3 35.101		
	28766, Lalande	25.1	38.4	51.5	31 38.35	2 28.050	+ 0 12.43	— 7.174
	Irene	37.9	- -	3.6	31 50.78	3 35.224		
	28766, Lalande	57.7	10.7	23.7	32 10.68	2 28.100	+ 0 12.44	— 7.058
	Irene	10.1	23.2	36.1	33 23.12	2 35.158		
	28766, Lalande	30.2	43.4	56.4	34 43.34	2 28.165	+ 0 12.39	— 6.985
	Irene	42.7	55.9	8.7	34 55.73	2 35.150		
	28766, Lalande	4.8	- -	30.6	37 17.68	2 28.094	+ 0 13.36	— 7.056
	Irene	18.0	- -	- -	37 31.04	2 35.150		
	28766, Lalande	49.3	- -	- -	39 2.26	2 28.123	+ 0 12.66	— 7.105
	Irene	2.1	- -	27.8	39 14.92	2 35.228		
	28766, Lalande	44.5	- -	10.4	40 57.44	2 28.100	+ 0 12.60	— 7.231
	Irene	57.0	- -	- -	41 10.04	2 35.331		
	28766, Lalande	10.5	- -	36.2	44 23.34	2 28.035	+ 0 12.94	— 7.237
	Irene	- -	- -	49.3	44 36.28	2 35.272		

RESULTS.

Corr. Chron. + 0 m. 31.32 s.

	α	δ
28726, Lalande,	h. m. s. 15 38 51.25	° ′ ″ −17 37 25.16

Irene—28726, Lalande,

		△α	△δ
		m. s.	′ ″
Sid. T. 18 6 50.29		— 0 23.18	−16 1.81
	Δρ	— .02	— 1.27
	p	+ .15	+ 3.56

Corr. Chron. + 0 m. 4.82 s.

	α	δ
28766, Lalande,	h. m. s. 15 40 34.94	° ′ ″ −18 13 33.47

Irene—28766, Lalande,

		△α	△δ
		m. s.	′ ″
Sid. T. 16 31 59.43		+ 0 12.56	— 1 48.34
	Δρ	.00	— .10
	p	+ .05	+ 3.66

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 1	28766, Lalande	12.8	. .	38.5	16 48 25.63	2 28.058	+ 0 13.06	− 7.257
	Irene	25.7	. .	. .	48 38.69	2 35.315		
	28766, Lalande	52.5	. .	18.3	50 5.37	2 27.935	+ 0 12.94	− 7.397
	Irene	5.3	. .	31.3	50 18.31	2 35.332		
3	28766, Lalande	21.0	33.9	47.1	8 31 34.00	1 32.729	+ 1 30.49	− 52.086
	Irene	51.5	4.5	17.4	33 4.47	3 24.700		
	28838, Lalande	51.2	. .	17.2	34 4.24	3 29.060	− 0 59.77	+ 4.360
	28766, Lalande	23.2	36.0	49.0	35 36.07	1 32.729	+ 1 30.00	− 52.084
	Irene	53.0	6.0	19.2	37 6.07	3 24.698		
	28838, Lalande	52.9	5.2	19.0	38 5.70	3 29.089	− 0 59.63	+ 4.391
	28766, Lalande	29.7	42.7	55.8	40 42.73	1 32.710	+ 1 31.29	− 52.206
	Irene	. .	14.0	27.0	42 14.02	3 24.807		
	28838, Lalande	. .	13.0	26.0	43 13.02	3 29.029	− 0 59.00	+ 4.288
	28766, Lalande	47.5	0.0	13.2	45 0.23	1 32.701	+ 1 31.50	− 52.234
	Irene	19.0	32.0	44.2	46 31.73	3 24.820		
	28838, Lalande	18.0	30.7	43.2	47 30.63	3 29.058	− 0 58.90	+ 4.238
	28766, Lalande	29.2	42.2	55.2	51 42.20	1 32.543	+ 1 30.97	− 52.429
	Irene	0.0	13.3	26.2	53 13.17	3 24.857		
	28838, Lalande	. .	12.0	25.1	54 12.02	3 29.002	− 0 58.85	+ 4.145
	28766, Lalande	31.2	44.6	57.5	55 44.43	1 32.600	+ 1 31.29	− 52.765
	Irene	. .	15.7	28.0	57 15.72	3 25.250		
	28838, Lalande	. .	14.0	27.0	58 14.02	3 28.900	− 0 58.30	+ 3.650
	28766, Lalande	21.3	34.3	47.0	9 3 34.20	1 32.572	+ 1 32.50	− 52.488
	Irene	54.0	6.9	19.2	5 6.70	3 24.945		
	28838, Lalande	52.0	5.2	18.3	6 5.17	3 28.921	− 0 58.47	+ 3.976
	28766, Lalande	50.7	3.2	16.5	8 3.47	1 32.471	+ 1 31.86	− 52.724
	Irene	22.1	35.7	48.2	9 35.33	3 25.080		
	28838, Lalande	. .	33.7	46.9	10 33.72	3 28.722	− 0 58.39	+ 3.642
	28766, Lalande	59.2	11.7	25.3	12 12.07	1 32.572	+ 1 32.03	− 52.864
	Irene	31.3	44.0	57.0	13 44.10	3 25.321		
	28838, Lalande	. .	42.7	55.3	14 42.72	3 28.875	− 0 58.62	+ 3.554
6	Irene	24.7	37.7	50.7	18 31 37.67	2 27.545		
	5264, B.A.C.	34.5	47.2	0.1	33 47.28	3 38.910	− 2 9.61	+ 41.301
	Irene	40.4	53.3	6.4	34 53.35	2 27.362		
	5264, B.A.C.	49.9	2.9	15.9	37 2.89	3 38.770	− 2 9.54	+ 41.344
	Irene	1.8	14.6	27.8	38 14.75	2 27.130		
	5264, B.A.C.	11.0	24.1	37.1	41 24.06	3 38.580	− 2 9.31	+ 41.386
	Irene	54.8	8.1	21.2	43 8.04	2 27.070		
	5264, B.A.C.	4.2	17.2	30.4	45 17.27	3 38.338	− 2 9.23	+ 41.204
	Irene	16.7	30.0	43.1	46 29.92	2 27.041		
	5264, B.A.C.	26.2	39.1	52.3	48 39.19	3 38.228	− 2 9.27	+ 41.123
	Irene	2.3	15.3	28.6	51 15.39	2 26.810		
	5264, B.A.C.	11.8	24.5	37.9	53 24.71	3 38.052	− 2 9.32	+ 41.178
	Irene	0.8	13.9	27.1	55 13.92	2 26.690		
	5264, B.A.C.	10.0	22.8	35.8	57 22.86	3 37.770	− 2 8.96	+ 41.016
	Irene	57.8	10.9	24.0	59 10.88	2 26.422		
	5264, B.A.C.	6.9	19.7	32.0	19 1 19.54	3 37.552	− 2 8.66	+ 41.066

RESULTS.

m. s.
Corr. Chron. + 0 10.90

	α h. m. s.	δ ° ′ ″
28766, Lalande,	15 40 34.90	−18 13 33.43
28838, Lalande,	15 43 5.30	−18 29 2.07

Irene—28766, Lalande,

		Δα m. s.	Δδ ′ ″
M. T.	8 53 16.61	+ 1 31.33	−13 25.84
	Δt +	.24	
	Δϱ −	.03	− .96
	p +	.12	+ 3.50

Irene—28838, Lalande,

		Δα m. s.	Δδ ′ ″
M. T.	8 53 16.61	− 0 58.88	+ 1 1.89
	Δt −	.16	
	Δϱ	.00	+ .07
	p +	.12	+ 3.51

m. s.
Corr. Chron. + 0 4.37

	α h. m. s.	δ ° ′ ″
5264, B.A.C.,	15 46 25.44	−18 56 20.58

Irene—5264, B.A.C.,

		Δα m. s.	Δδ ′ ″
Sid. T.	18 49 24.23	− 2 9.09	+10 32.23
	Δϱ +	.05	+ 1.22
	p +	.17	+ 3.26

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 6	Irene	29.9	43.0	56.3	19 4 43.06	2 26.230		
	5264, B. A. C.	38.8	51.9	4.9	6 51.87	3 37.160	— 2 8.81	+ 40.866
	Irene	18.7	31.3	44.9	8 31.65	2 25.995		
	5264, B. A. C.	26.8	39.9	53.0	10 39.88	3 36.930	— 2 8.23	+ 40.871
12	Irene	59.1	12.3	25.2	17 27 12.20	1 46.089		
	29043, Lalande	25.4	38.5	51.5	28 38.45	2 52.669	— 1 26.25	+ 36.759
	Σ Cat. Gen. 1760	26.2	39.3	52.3	28 39.25	2 53.562	— 1 27.05	+ 37.652
	Irene	23.4	36.1	49.5	30 36.33	1 45.569		
	29043, Lalande	49.4	2.8	15.8	32 2.77	2 52.748	— 1 26.44	+ 37.358
	Σ Cat. Gen. 1760	50.4	3.7	16.8	32 3.63	2 53.618	— 1 27.30	+ 38.228
	Irene	5.6	18.5	31.7	34 18.59	1 46.136		
	29043, Lalande	31.4	44.4	57.6	35 44.47	2 52.570	— 1 25.88	+ 36.613
	Σ Cat. Gen. 1760	31.9	45.2	58.4	35 45.15	2 53.449	— 1 26.56	+ 37.492
	Irene	7.7	20.8	33.8	37 20.75	1 45.915		
	29043, Lalande	33.7	46.7	59.7	38 46.71	2 52.530	— 1 25.96	+ 36.794
	Σ Cat. Gen. 1760	34.6	47.5	0.4	38 47.49	2 53.470	— 1 26.74	+ 37.734
	Irene	37.1	50.3	3.6	40 50.34	1 45.910		
	29043, Lalande	3.3	16.3	29.3	42 16.29	2 52.623	— 1 25.95	+ 36.892
	Σ Cat. Gen. 1760	4.0	17.0	30.1	42 17.23	2 53.420	— 1 26.89	+ 37.689
	Irene	12.7	25.7	38.9	51 25.76	1 46.038		
	29043, Lalande	38.4	51.2	4.2	52 51.27	2 52.382	— 1 25.57	+ 36.523
	Σ Cat. Gen. 1760	39.2	52.0	4.9	52 52.04	2 53.310	— 1 26.28	+ 37.451
	Irene	5.7	18.8	32.2	54 18.89	1 46.075		
	29043, Lalande	31.3	44.2	57.6	55 44.35	2 52.310	— 1 25.46	+ 36.414
	Σ Cat. Gen. 1760	32.1	44.9	58.1	55 45.03	2 53.163	— 1 26.14	+ 37.267
	Irene	56.8	10.0	23.1	57 9.93	1 46.000		
	29043, Lalande	22.2	34.9	48.4	58 35.18	2 52.381	— 1 25.25	+ 36.560
	Σ Cat. Gen. 1760	23.1	35.8	49.1	58 35.96	2 53.170	— 1 26.03	+ 37.349
13	Irene	40.7	53.6	6.7	17 32 53.67	2 24.211		
	29043, Lalande	14.4	27.3	40.3	33 27.36	2 38.318	— 0 33.69	+ 14.107
	Σ Cat. Gen. 1760	15.3	28.1	41.3	33 28.21	2 39.272	— 0 34.54	+ 15.161
	Irene	52.7	5.7	18.7	36 5.71	2 34.171		
	29043, Lalande	26.5	39.2	52.4	36 39.33	2 38.445	— 0 33.62	+ 14.274
	Σ Cat. Gen. 1760	27.3	40.2	53.2	36 40.24	2 39.345	— 0 34.53	+ 15.174
	Irene	38.3	51.0	4.2	38 51.14	2 24.277		
	29043, Lalande	11.6	24.7	37.7	39 24.65	2 38.371	— 0 33.51	+ 14.094
	Σ Cat. Gen. 1760	12.4	25.4	38.4	39 25.39	2 39.199	— 0 34.25	+ 14.922
	Irene	14.3	27.1	40.3	41 27.23	2 24.229		
	29043, Lalande	47.6	0.6	13.7	42 0.65	2 38.272	— 0 33.42	+ 14.043
	Σ Cat. Gen. 1760	48.6	1.5	14.4	42 1.50	2 39.138	— 0 34.27	+ 14.909
	Irene	22.5	35.5	48.4	44 35.47	2 24.312		
	29043, Lalande	55.8	8.6	21.9	45 8.75	2 38.339	— 0 33.28	+ 14.027
	Σ Cat. Gen. 1760	56.5	9.4	22.5	45 9.45	2 39.042	— 0 33.98	+ 14.730
	Irene	54.1	6.9	20.2	47 7.07	2 24.390		
	29043, Lalande	27.4	40.4	53.5	47 40.43	2 38.312	— 0 33.36	+ 13.922
	Σ Cat. Gen. 1760	28.2	41.2	54.3	47 41.21	2 39.179	— 0 34.14	+ 14.789
	Irene	30.4	43.8	56.6	49 43.60	2 24.161		
	29043, Lalande	3.8	16.7	29.8	50 16.78	2 38.129	— 0 33.18	+ 13.968
	Σ Cat. Gen. 1760	4.5	17.5	30.6	50 17.54	2 39.145	— 0 33.94	+ 14.984

RESULTS.

Corr. Chron. + 0 m. s. 4.73

	a (h. m. s.)	δ (° ′ ″)
29043, Lalande,	15 50 29.64	—19 30 10.93
Σ Cat. Gen. 1760,	15 50 30.49	—19 30 24.21

Irene—29043, Lalande,

Sid. T. 17 41 43.82 (h. m. s.)	△a (m. s.)	△δ (′ ″)
	— 1 25.84	+ 9 24.66
Δϱ	+ .02	+ .69
p	+ .11	+ 3.34

Irene—Σ Cat. Gen. 1760,

Sid. T. 17 41 43.82 (h. m. s.)	△a (m. s.)	△δ (′ ″)
	— 1 26.62	+ 9 38.02
Δϱ	+ .02	+ .71
p	+ .11	+ 3.34

Corr. Chron. + 0 m. s. 7.43

	a (h. m. s.)	δ (° ′ ″)
29043, Lalande,	15 50 29.62	—19 30 10.90
Σ Cat. Gen. 1760,	15 50 30.47	—19 26 32.89

Irene—29043, Lalande,

Sid. T. 17 46 14.61 (h. m. s.)	△a (m. s.)	△δ (′ ″)
	— 0 33.26	+ 3 34.42
Δϱ	+ .01	+ .27
p	+ .11	+ 3.32

Irene—Σ Cat. Gen. 1760,

Sid. T. 17 46 14.61 (h. m. s.)	△a (m. s.)	△δ (′ ″)
	— 0 34.03	+ 3 48.56
Δϱ	+ .01	+ .29
p	+ .11	+ 3.32

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 13	Irene	40.2	52.9	5.8	17 54 52.96	2 24.408		
	29043, Lalande	12.9	25.9	38.8	55 25.85	2 38.119	− 0 32.89	+ 13.711
	Σ Cat. Gen. 1760	13.8	26.6	39.6	55 26.66	2 39.180	− 0 33.70	+ 14.772
	Irene	54.9	7.6	20.8	56 7.78	2 24.490		
	29043, Lalande	27.7	40.5	53.7	57 40.64	2 38.129	− 0 32.86	+ 13.639
	Σ Cat. Gen. 1760	28.4	41.4	54.4	57 41.11	2 39.115	− 0 33.33	+ 14.625
	Irene	14.4	27.1	40.1	59 27.19	2 24.438		
	29043, Lalande	47.0	. .	13.0	18 0 0.00	2 38.168	− 0 32.81	+ 13.730
	Σ Cat. Gen. 1750	47.8	0.8	13.8	0 0.80	2 39.084	− 0 33.61	+ 14.646
14	Σ Cat. Gen. 1760	11.2	24.2	37.1	17 51 24.16	2 45.304	+ 0 19.62	− 8.348
	Irene	31.1	43.8	56.5	51 43.78	2 53.652		
	Σ Cat. Gen. 1760	28.4	41.1	54.2	53 41.24	2 45.339	+ 0 19.63	− 8.173
	Irene	47.9	0.9	13.8	54 0.87	2 53.512		
	Σ Cat. Gen. 1760	12.8	26.1	38.8	56 25.90	2 45.290	+ 0 19.56	− 8.102
	Irene	32.5	45.3	58.6	56 45.46	2 53.392		
	Σ Cat. Gen. 1760	18.0	30.9	43.9	58 30.93	2 45.408	+ 0 19.63	− 8.344
	Irene	37.7	50.2	3.8	58 50.56	2 53.752		
	Σ Cat. Gen. 1760	18.4	31.3	44.5	18 0 31.42	2 45.350	+ 0 19.85	− 8.320
	Irene	38.4	51.2	4.3	0 51.27	2 53.670		
	Σ Cat. Gen. 1760	23.6	36.7	49.7	2 36.68	2 45.192	+ 0 19.95	− 8.537
	Irene	43.7	56.7	9.5	2 56.63	2 53.729		
	Σ Cat. Gen. 1760	35.7	48.7	1.7	4 48.69	2 45.268	+ 0 19.78	− 8.292
	Irene	55.6	8.2	21.6	5 8.47	2 53.560		
	Σ Cat. Gen. 1760	2.1	14.9	28.2	7 15.06	2 45.258	+ 0 20.05	− 8.354
	Irene	22.2	35.0	48.1	7 35.11	2 53.612		
	Σ Cat. Gen. 1760	1.6	14.7	27.8	9 14.69	2 45.205	+ 0 20.27	− 8.607
	Irene	22.0	34.9	48.0	9 34.96	2 53.812		
	Σ Cat. Gen. 1760	20.6	33.7	46.7	11 33.65	2 45.046	+ 0 20.06	− 8.612
	Irene	41.2	53.8	6.1	11 53.71	2 53.658		
	Σ Cat. Gen. 1760	10.0	23.0	36.1	13 23.02	2 44.969	+ 0 20.37	− 8.550
	Irene	30.4	43.4	56.5	13 43.39	2 53.519		
	Σ Cat. Gen. 1760	0.1	13.1	26.3	15 13 16	2 45.000	+ 0 20.48	− 8.553
	Irene	20.7	33.5	46.8	15 33.64	2 53.553		
	Σ Cat. Gen. 1760	56.1	9.1	22.1	17 9.09	2 45.007	+ 0 20.56	− 8.715
	Irene	16.7	29.6	42.7	17 29.65	2 53.722		
	Σ Cat. Gen. 1760	0.3	13.3	26.3	19 13.31	2 44.995	+ 0 20.58	− 8.684
	Irene	21.0	33.8	46.8	19 33.89	2 53.679		
15	29043, Lalande	46.3	59.4	12.5	18 7 59.41	1 32.730	+ 1 15.88	− 32.301
	Σ Cat. Gen. 1760	47.2	0.1	13.2	8 0.81	1 33.681	+ 1 14.48	− 31.350
	Irene	2.0	15.2	28.6	9 15.29	2 34.852		
	29043, Lalande	35.3	48.6	1.6	10 48.47	1 32.672	+ 1 16.21	− 32.345
	Σ Cat. Gen. 1760	36.0	49.5	2.3	10 49.24	1 33.537	+ 1 15.44	− 31.480
	Irene	51.4	4.7	17.9	12 4.68	2 34.838		
	29043, Lalande	39.2	52.0	5.6	14 52.25	1 32.768	+ 1 16.20	− 32.533
	Σ Cat. Gen. 1760	40.0	52.8	6.2	14 52.98	1 33.571	+ 1 15.47	− 31.730
	Irene	56.0	8.4	. .	16 8.45	2 35.122		

RESULTS.

Corr. Chron. + 0 m. 7.68 s.

	a (h. m. s.)	δ (° ′ ″)
Σ Cat. Gen. 1760,	15 50 30.44	−19 30 24.16

Irene—Σ Cat. Gen. 1760,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 18 6 14.92		+ 0 20.03	− 2 9.75
	Δρ	− .01	− .18
	p	+ .12	+ 3.25

Corr. Chron. + 0 m. 8.10 s.

	a (h. m. s.)	δ (° ′ ″)
20943, Lalande,	15 50 29.57	−19 30 10.84
Σ Cat. Gen. 1760,	15 50 30.42	−19 38 28.15

Irene—20943, Lalande,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 18 24 59.23		+ 1 16.51	− 8 19.70
	Δρ	− .03	− .78
	p	+ .14	+ 3.17

Irene—Σ Cat. Gen. 1760,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 18 24 59.23		+ 1 15.62	− 8 6.74
	Δρ	− .03	− .76
	p	+ .14	+ 3.17

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δα	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 15	20943, Lalande	15.7	- -	41.6	18 23 28.64	1 31.578	+ 1 16.33	— 32.473
	Σ Cat. Gen. 1760	16.4	-	42.6	23 29.52	1 32.436	+ 1 15.45	— 31.615
	Irene	32.0	44.9	58.0	24 44.97	2 33.872		
	20943, Lalande	1.7	14.6	27.8	40 14.70	1 30.998	+ 1 17.08	— 32.693
	Σ Cat. Gen. 1760	2.5	15.4	28.6	40 15.50	1 31.851	+ 1 16.28	— 31.840
	Irene	18.8	31.6	45.0	41 31.78	2 33.512		
	20943, Lalande	51.3	4.1	17.4	44 4.26	1 30.952	+ 1 17.36	— 32.728
	Σ Cat. Gen. 1760	52.1	5.0	18.1	44 5.04	1 31.678	+ 1 16.58	— 32.002
	Irene	8.4	21.8	34.7	45 21.62	2 33.501		
16	Σ Cat. Gen. 1760	48.3	1.3	14.0	8 8 1.20	1 45.809	+ 2 9.80	— 53.995
	Irene	58.0	11.0	24.0	10 11.00	3 39.689		
	1315, G. 12 Y.	- -	- -	12.0	11 58.83	1 25.910	— 1 47.83	— 73.894
	Σ Cat. Gen. 1760	59.0	12.1	25.1	15 12.07	1 45.691	+ 2 9.18	— 54.095
	Irene	8.5	- -	35.0	17 21.25	3 39.671		
	1315, G. 12 Y.	57.1	9.5	23.0	19 9.87	1 25.872	— 1 48.62	— 73.914
	Σ Cat. Gen. 1760	41.2	54.3	7.9	23 54.47	1 45.561	+ 2 9.82	— 54.123
	Irene	- -	4.2	- -	26 4.29	3 39.569		
	1315, G. 12 Y.	39.1	52.3	5.0	27 52.13	1 25.649	— 1 47.84	— 74.035
	Σ Cat. Gen. 1760	31.2	44.2	57.5	36 44.30	1 45.409	+ 2 10.79	— 54.385
	Irene	- -	55.0	9.0	39 55.09	3 39.679		
	Σ Cat. Gen. 1760	55.0	8.0	21.5	41 8.17	1 45.341	+ 2 11.16	— 54.552
	Irene	- -	- -	32.5	43 19.33	3 39.778		
	Σ Cat. Gen. 1760	41.7	54.7	8.0	46 54.80	1 45.260	+ 2 11.29	— 54.386
	Irene	- -	6.0	19.2	49 6.09	3 39.531		
	1315, G. 12 Y.	- -	53.0	6.0	50 53.09	1 25.329	— 1 47.00	— 74.317
24	5342, B.A.C.	57.2	10.3	23.2	8 9 10.23	2 38.252	+ 2 12.20	+ 6.063
	Irene	9.0	22.3	36.0	11 22.43	2 32.189		
	5342, B.A.C.	9.5	23.1	36.0	13 22.86	2 38.353	+ 2 12.14	+ 6.044
	Irene	22.0	35.0	48.0	15 35.00	2 32.309		
	5342, B.A.C.	34.2	47.1	0.3	16 47.20	2 38.210	+ 2 12.05	+ 5.652
	Irene	46.0	- -	12.5	18 59.25	2 32.558		
	5342, B.A.C.	8.3	21.0	34.0	20 21.10	2 38.087	+ 2 12.03	+ 5.765
	Irene	20.3	- -	46.1	22 33.13	2 32.322		
	5342, B.A.C.	26.2	39.2	53.2	24 39.53	2 38.000	+ 2 12.54	+ 5.945
	Irene	39.0	52.0	5.2	26 52.07	2 32.055		
	5342, B.A.C.	53.7	6.5	20.0	28 6.73	2 37.915	+ 2 12.37	+ 5.886
	Irene	6.0	19.3	32.0	30 19.10	2 32.029		
26	Irene	34.8	47.8	1.0	18 5 47.88	1 36.670		
	5395, B.A.C.	35.3	48.1	1.7	7 48.35	3 48.140	— 2 0.47	+ 71.585
	Irene	48.6	2.0	15.9	8 2.14	1 36.610		
	5395, B.A.C.	49.2	2.2	15.8	10 2.38	3 48.062	— 2 0.24	+ 71.567
	Irene	18.7	32.0	45.5	16 32.06	1 36.572		
	5395, B.A.C.	19.0	32.2	45.4	18 32.20	3 48.099	— 2 0.14	+ 71.642
	Irene	8.8	22.1	35.6	23 22.15	1 35.640		
	5395, B.A.C.	8.5	21.6	34.9	25 21.65	3 46.805	— 1 59.50	+ 71.280
	Irene	38.0	49.4	2.5	29 49.97	1 35.675		
	5395, B.A.C.	35.5	48.5	1.6	31 48.54	3 46.828	— 1 58.57	+ 71.268

RESULTS.

m. s.
Corr. Chron. — 0 21.86

	α	δ
	h. m. s.	° ′ ″
Σ Cat. Gen. 1760,	15 50 30.40	—19 30 24.10
1315, G. 12 Y.,	15 54 29.30	—18 25 18.98

Irene—Σ Cat. Gen., 1760,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 30 37.65	+ 2 10.34	—13 53.89
	Δt	+ .36	
	Δϱ	— .04	— 1.19
	p	+ .12	+ 3.20

Irene—1315, G. 12 Y.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 25 18.80	— 1 47.82	—18 57.96
	Δt	— .29	
	Δϱ	— .06	— 1.76
	p	+ .13	+ 3.14

m. s.
Corr. Chron. — 0 40.00

	α	δ
	h. m. s.	° ′ ″
5342, B.A.C.,	15 58 41.75	—20 27 39.62

Irene—5342, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 20 16.83	+ 2 12.22	+ 1 30.57
	Δt	+ .36	
	Δϱ	+ .01	+ .15
	p	+ .13	+ 3.03

m. s.
Corr. Chron. + 0 9.69

	α	δ
	h. m. s.	° ′ ″
5395, B.A.C.,	16 4 56.71	—21 0 53.78

Irene—5395, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	18 16 52.53	— 1 59.78	+18 18.44
	Δϱ	+ .06	+ 1.65
	p	+ .11	+ 3.05

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 27	Irene	46.2	59.7	12.8	18 8 59.57	2 32.130		
	5395, B.A.C.	39.7	52.9	6.1	9 52.89	3 51.581	− 0 53.32	+ 49.387
	Irene	23.6	36.9	49.9	13 36.80	2 32.166		
	5395, B.A.C.	16.8	29.9	43.2	14 29.96	3 51.595	− 0 53.16	+ 49.365
	Irene	34.8	48.3	1.5	19 48.22	2 31.851		
	5395, B.A.C.	28.1	41.0	54.5	19 41.18	3 51.355	− 0 52.96	+ 49.440
	Irene	31.0	45.0	56.0	23 43.96	2 31.889		
	5395, B.A.C.	23.6	36.8	51.4	24 37.24	3 51.242	− 0 53.28	+ 49.289
	Irene	10.6	23.9	37.5	28 24.01	2 31.860		
	5395, B.A.C.	3.5	16.6	29.9	29 16.67	3 51.109	− 0 52.66	+ 49.185
	Irene	46.1	59.3	12.4	33 59.26	2 31.790		
	5395, B.A.C.	38.2	51.3	4.7	34 51.40	3 51.080	− 0 52.14	+ 49.226
28	5395, B.A.C.	. . .	. . .	13.3	18 22 1.05	3 51.042	+ 0 14.24	+ 27.266
	Irene	. .	15.3	28.3	22 15.29	2 53.712		
	5395, B.A.C.	0.0	13.3	26.5	25 13.25	3 51.079	+ 0 15.43	+ 27.235
	Irene	15.5	28.7	41.8	25 28.68	2 53.780		
	5395, B.A.C.	27.0	40.2	53.4	28 40.17	3 50.970	+ 0 15.48	+ 27.206
	Irene	42.6	55.6	8.8	28 55.65	2 53.700		
29	5395, B.A.C.	36.6	49.6	3.0	18 42 49.73	2 49.360	+ 1 25.42	+ 5.230
	Irene	1.8	15.2	28.5	44 15.15	2 44.130		
	5395, B.A.C.	3.6	16.8	30.1	45 16.76	2 49.210	+ 1 25.13	+ 4.388
	Irene	29.3	42.5	55.8	46 41.89	2 44.822		
	5395, B.A.C.	53.2	6.2	19.4	48 6.28	2 48.950	+ 1 25.65	+ 4.301
	Irene	18.6	32.0	45.2	49 31.93	2 44.649		
	5395, B.A.C.	25.7	38.7	52.0	50 38.79	2 49.770	+ 1 26.00	+ 5.230
	Irene	51.7	4.9	17.9	52 4.79	2 44.540		
	5395, B.A.C.	50.6	3.4	16.8	53 3.58	2 48.692	+ 1 26.02	+ 4.193
	Irene	16.4	29.5	43.0	54 29.60	2 44.449		
	5395, B.A.C.	31.7	45.0	58.3	55 45.04	2 48.585	+ 1 26.41	+ 4.505
	Irene	. .	11.0	24.3	57 11.45	2 44.080		
31	Irene	40.4	53.8	6.6	18 53 53.58	2 48.105		
	(* 10) W.	49.9	3.0	16.4	55 3.08	2 57.068	− 1 9.50	+ 8.963
	Irene	51.3	4.4	17.7	56 4.46	2 48.112		
	(* 10) W.	0.6	14.0	27.1	57 13.94	2 56.900	− 1 9.48	+ 8.788
	Irene	2.8	15.9	29.4	58 15.96	2 48.137		
	(* 10) W.	12.2	25.5	38.8	59 25.46	2 56.860	− 1 9.50	+ 8.723
	Irene	28.5	41.7	55.1	19 0 41.41	2 48.223		
	(* 10) W.	37.7	50.9	4.3	1 50.97	2 56.838	− 1 9.56	+ 8.615
	Irene	36.7	49.8	2.9	2 49.77	2 48.010		
	(* 10) W.	46.0	59.0	12.2	3 59.06	2 56.698	− 1 9.29	+ 8.688
	Irene	43.1	56.4	9.4	4 56.29	2 47.868		
	(* 10) W.	52.3	6.5	18.8	6 5.53	2 56.666	− 1 9.24	+ 8.798
	Irene	44.3	57.7	10.8	6 57.56	2 47.970		
	(* 10) W.	53.3	6.5	19.7	8 6.49	2 56.568	− 1 8.93	+ 8.598
	Irene	53.1	6.4	19.7	9 6.39	2 47.910		
	(* 10) W.	2.2	15.4	28.7	10 15.43	2 56.489	− 1 9.04	+ 8.579

RESULTS.

Aug. 27

m. s.
Corr. Chron. + 0 10.01

	α	δ
	h. m. s.	° ′ ″
5395, B.A.C.,	16 4 56.69	−21 0 53.75

Irene—5395, B.A.C.,

	Δα	Δδ
	m. s.	′ ″
h. m. s.		
Sid. T. 18 21 35.31	− 0 52.92	+12 37.95
Δρ	+ .04	+ 1.17
p	+ .12	+ 3.01

Aug. 28

m. s.
Corr. Chron. + 0 10.23

	α	δ
	h. m. s.	° ′ ″
5395, B.A.C.,	16 4 56.67	−21 0 53.73

Irene—5395, B.A.C.,

	Δα	Δδ
	m. s.	′ ″
h. m. s.		
Sid. T. 18 25 43.44	+ 0 15.05	+ 6 58.61
Δρ	+ .02	+ .66
p	+ .12	+ 2.99

Aug. 29

m. s.
Corr. Chron. − 0 10.55

	α	δ
	h. m. s.	° ′ ″
5395, B.A.C.,	16 4 56.65	−21 0 53.70

Irene—5395, B.A.C.,

	Δα	Δδ
	m. s.	′ ″
h. m. s.		
Sid. T. 18 50 53.02	+ 1 25.77	+ 1 11.33
Δρ	+ .01	+ .14
p	+ .13	+ 2.90

Aug. 31

m. s.
Corr. Chron. + 0 11.15

	α	δ
	h. m. s.	° ′ ″
(* 10) W.,	16 9 52.95	−21 13 22.46

Irene—(* 10) W.,

	Δα	Δδ
	m. s.	′ ″
h. m. s.		
Sid. T. 19 1 46.83	− 1 9.32	+ 2 14.01
Δρ	+ .01	+ .28
p	+ .14	+ 2.85

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Sep. 3.	(* 11) W.	15.0	28.0	41.0	7 49 28.00	3 30.981	+ 0 24.00	+ 3.531
	Irene	39.0	52.0	5.0	49 52.00	3 37.450		
	(* 11) W.	12.0	25.1	39.0	53 25.37	3 30.952	+ 0 24.63	+ 3.316
	Irene	- -	50.0	3.0	53 50.00	3 27.636		
	(* 11) W.	13.2	26.0	39.0	54 26.06	3 30.920	+ 0 25.04	+ 3.528
	Irene	- -	51.0	4.0	54 51.10	3 27.392		
	(* 11) W.	11.2	25.0	38.3	59 24.83	3 30.795	+ 0 24.60	+ 3.420
	Irene	36.2	49.1	3.0	59 49.43	3 27.375		
	(* 11) W.	36.0	49.7	3.0	8 0 49.56	3 30.762	+ 0 24.77	+ 3.341
	Irene	1.5	14.3	27.2	1 14.33	3 27.421		
	(* 11) W.	59.2	12.0	25.7	1 12.30	3 30.682	+ 0 24.70	+ 3.250
	Irene	24.0	37.0	50.0	1 37.00	3 27.432		
	(* 11) W.	14.2	28.0	41.0	4 27.73	3 30.681	+ 0 25.67	+ 3.336
	Irene	39.5	53.5	7.2	4 53.40	3 27.345		
	(* 11) W.	24.2	37.7	51.1	5 37.66	3 30.499	+ 0 25.34	+ 3.267
	Irene	49.6	3.2	16.2	6 3.00	3 27.232		
	(* 11) W.	10.4	23.8	37.0	7 23.73	3 30.507	+ 0 25.57	+ 3.249
	Irene	- -	49.2	2.0	7 49.30	3 27.258		
	(* 11) W.	49.0	2.0	16.0	9 2 .33	3 30.339	+ 0 25.50	+ 3.119
	Irene	15.0	27.5	41.0	9 27.83	3 27.220		
	(* 11) W.	19.5	33.0	46.0	10 32.83	3 30.370	+ 0 25.17	+ 3.279
	Irene	45.0	- -	11.0	10 58.00	3 27.091		
	(* 11) W.	50.9	3.9	17.5	12 4.10	3 30.305	+ 0 25.86	+ 3.236
	Irene	17.0	30.0	42.9	12 29.96	3 27.069		
	(* 11) W.	29.2	42.0	55.0	13 42.06	3 30.472	+ 0 25.34	+ 3.544
	Irene	54.5	7.0	20.7	14 7.40	3 26.928		
	(* 11) W.	39.7	53.0	6.5	17 53.06	3 29.970	+ 0 26.00	+ 3.132
	Irene	6.0	19.2	32.0	18 19.06	3 26.838		
4	(* 11) W.	32.3	46.1	59.0	7 31 45.80	1 41.519	+ 1 36.93	— 18.079
	Irene	9.2	23.0	36.0	33 22.73	2 29.419		
	(* 11) W.	29.4	43.2	56.0	35 42.87	1 41.410	+ 1 37.93	— 18.067
	Irene	- -	21.0	- -	37 20.80	2 29.298		
	(* 11) W.	5.0	18.0	31.3	39 18.10	1 41.421	+ 1 38.20	— 17.930
	Irene	43.0	56.5	- -	40 56.30	2 29.172		
	(* 11) W.	19.3	32.6	45.4	42 32.43	1 41.230	+ 1 38.40	— 18.231
	Irene	57.5	11.0	24.0	43 10.83	2 29.282		
	(* 11) W.	28.1	41.3	54.3	45 41.23	1 41.205	+ 1 37.77	— 18.194
	Irene	6.0	19.0	32.0	47 19.00	2 29.220		
20	5598, B.A.C.	10.0	23.0	36.0	6 58 23.00	1 54.030	+ 0 13.73	— 23 491
	Irene	25.2	37.0	50.0	58 36.73	2 47.342		
	5598, B.A.C.	13.7	26.2	40.0	7 1 26.63	1 53.921	+ 0 13.47	— 23.713
	Irene	27.3	40.0	53.0	1 40.10	2 47.455		
	5606, B.A.C.	32.0	45.3	59.2	2 45.50	2 37.367	— 1 5.40	— 10.088
	5598, B.A.C.	47.2	0.0	13.5	5 0.23	1 53.819	+ 0 13.84	— 23.929
	Irene	0.0	14.0	- -	5 14.07	2 47.569		
	5606, B.A.C.	5.3	- -	31.5	6 18.40	2 37.258	— 1 4.33	— 10.311

RESULTS.

Corr. Chron. — 0 57.89 (m. s.)

	a (h. m. s.)	δ (° ′ ″)
(* 11) W.,	16 11 55.83	—21 28 39.58

Irene—(* 11) W.,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 3 42.24	+ 0 25.16	+ 0 51.10
	Δt +	.07	
	Δϱ	.00	+ .10
	p +	.13	+ 2.91

Corr. Chron. — 0 58.15 (h. s.)

	a (h. m. s.)	δ (° ′ ″)
(* 11) W.,	16 11 55.82	—21 28 39.55

Irene—(* 11) W.,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 39 27.78	+ 1 37.85	— 4 36.19
	Δt +	.26	
	Δϱ —	.02	— .45
	p +	.11	+ 2.89

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sep. 20	5598, B.A.C.	48.3	1.0	15.0	7 8 1.43	1 53.725	+ 0 13.64	− 23.816
	Irene	1.2	15.0	29.0	8 15.07	2 47.362		
	5606, B.A.C.	7.0	20.3	34.2	9 20.50	2 37.112	− 1 5.43	− 10.250
	5598, B.A.C.	30.2	44.0	57.0	11 43.73	1 53.509	+ 0 14.20	− 23.960
	Irene	44.8	58.0	11.1	11 57.93	2 47.290		
	5606, B.A.C.	49.0	2.3	15.2	13 2.16	2 37.003	− 1 4.23	− 10.287
	5598, B.A.C.	39.7	53.0	7.0	14 53.23	1 53.403	+ 0 14.43	− 24.112
	Irene	54.0	8.0	21.0	15 7.66	2 47.336		
	5606, B.A.C.	58.0	12.0	25.0	16 11.66	2 36.759	− 1 4.00	− 10.577
	5598, B.A.C.	8.4	22.0	25.0	18 21.80	1 53.105	+ 0 14.27	− 24.244
	Irene	..	36.0	49.2	18 36.07	2 47.170		
	5606, B.A.C.	27.1	40.2	53.0	19 40.50	2 36.625	− 1 4.03	− 10.545
	5598, B.A.C.	38.1	51.0	4.2	21 51.10	1 53.001	+ 0 14.17	− 24.228
	Irene	..	5.2	19.5	22 5.27	2 47.049		
	5606, B.A.C.	56.0	9.7	23.0	23 9.56	2 36.510	− 1 4.29	− 10.539
	5598, B.A.C.	11.2	24.0	37.0	25 24.06	1 52.782	+ 0 14.60	− 24.296
	Irene	25.5	38.5	52.0	25 38.66	2 46.899		
	5606, B.A.C.	..	42.5	56.0	26 42.57	2 36.285	− 1 3.91	− 10.614
	5598, B.A.C.	55.5	9.5	22.0	29 9.00	1 52.195	+ 0 15.00	− 24.179
	Irene	11.0	24.0	37.0	29 24.00	2 46.195		
	5606, B.A.C.	..	28.1	41.0	30 28.17	2 35.665	− 1 4.17	− 10.530
21	5598, B.A.C.	21.3	34.3	47.9	6 55 34.50	1 40.931	+ 1 39.43	− 42.536
	5606, B.A.C.	39.2	53.0	6.0	56 52.73	1 54.589	+ 0 21.20	− 28.878
	Irene	..	14.0	27.0	57 13.93	2 53.288		
	5598, B.A.C.	54.3	8.2	21.0	59 7.83	1 40.773	+ 1 40.10	− 42.777
	5606, B.A.C.	13.2	26.2	39.0	7 0 26.01	1 54.520	+ 0 21.92	− 29.030
	Irene	..	48.0	1.0	0 47.93	2 53.371		
	5598, B.A.C.	23.4	37.2	50.3	2 36.96	1 40.660	+ 1 40.07	− 42.787
	5606, B.A.C.	42.0	55.2	8.7	3 55.30	1 54.380	+ 0 21.73	− 29.067
	Irene	..	17.1	30.0	4 17.03	2 53.268		
	5598, B.A.C.	29.2	42.3	56.0	5 42.50	1 40.541	+ 1 40.40	− 42.826
	5606, B.A.C.	48.0	1.0	..	7 0.93	1 54.200	+ 0 21.97	− 29.167
	Irene	9.0	23.2	36.5	7 22.90	2 53.188		
	5598, B.A.C.	54.2	7.2	21.0	10 7.46	1 40.380	+ 1 40.64	− 42.880
	5606, B.A.C.	12.5	26.0	39.0	11 25.83	1 54.101	+ 0 22.27	− 29.159
	Irene	35.0	48.2	1.1	11 48.10	2 53.081		
	5598, B.A.C.	55.2	8.3	22.3	13 7.93	1 40.220	+ 1 41.60	− 42.978
	5606, B.A.C.	14.2	27.2	..	14 27.13	1 54.047	+ 0 22.40	− 29.151
	Irene	36.0	49.6	3.0	14 49.53	2 53.019		
	5598, B.A.C.	30.6	44.1	57.3	15 44.00	1 40.127	+ 1 41.00	− 42.952
	5606, B.A.C.	49.6	3.0	15.0	17 2.53	1 53.818	+ 0 22.47	− 29.261
	Irene	12.0	25.0	38.0	17 25.00	2 52.900		
	5598, B.A.C.	24.7	38.0	51.3	18 38.00	1 39.925	+ 1 40.91	− 42.993
	5606, B.A.C.	43.2	56.8	10.0	19 56.66	1 53.679	+ 0 22.25	− 29.239
	Irene	..	18.5	33.0	20 18.91	2 52.739		
	5598, B.A.C.	26.2	39.7	53.2	21 39.70	1 39.929	+ 1 41.43	− 42.960
	5606, B.A.C.	45.3	58.0	..	22 58.43	1 53.570	+ 0 22.70	− 29.319
	Irene	8.0	21.2	34.2	23 21.13	2 52.710		
	5598, B.A.C.	41.7	55.0	8.5	24 55.06	1 39.710	+ 1 41.77	− 42.934
	5606, B.A.C.	0.0	13.7	..	26 13.63	1 53.329	+ 0 23.20	− 29.315
	Irene	23.0	37.0	50.3	26 36.83	2 52.465		

RESULTS.

Corr. Chron. + 0 m. s. 20.30

	α	δ
	h. m. s.	° ′ ″
5598, B.A.C.,	16 34 53.77	−22 50 34.73

Irene—5598, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 13 59.86	+ 0 14.14	− 6 8.82
		Δt + .04	
		Δρ − .03	− .77
		p + .11	+ 2.61

	α	δ
	h. m. s.	° ′ ″
5606, B.A.C.,	16 36 12.54	−22 54 4.21

Irene—5606, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 15 40.17	− 1 4.42	− 2 40.09
		Δt − .17	
		Δρ − .01	− .34
		p + .11	+ 2.61

Corr. Chron. + 0 m. s. 17.56

	α	δ
	h. m. s.	° ′ ″
5598, B.A.C.,	16 34 53.76	−22 50 34.69
5606, B.A.C.,	16 36 12.52	−22 54 4.17

Irene—5598, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 12 41.69	+ 1 40.74	−10 58.77
		Δt + .27	
		Δρ − .06	− 1.40
		p + .11	+ 2.60

Irene—5606, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 12 41.69	+ 0 22.21	− 7 28.16
		Δt + .06	
		Δρ .04	− .95
		p + .11	+ 2.60

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sep. 24	Irene	32.2	- -	59.2	7 12 45.70	2 24.758		
	5680, B.A.C.	23.0	37.0	50.0	17 36.67	2 24.540	— 4 50.97	— 0.218
	Irene	57.0	11.0	24.0	20 10.67	2 24.672		
	5680, B.A.C.	47.8	1.0	15.0	25 1.27	2 24.039	— 4 50.60	— 0.633
	Irene	37.0	50.2	3.0	26 50.07	2 24.311		
	5680, B.A.C.	27.5	40.8	54.0	31 40.76	2 23.670	— 4 50.69	— 0.641
25	Irene	48.0	2.0	15.0	3 1.67	2 39.110		
	5680, B.A.C.	11.0	24.0	38.1	6 24.37	1 50.979	— 3 22.70	— 18.310
	Irene	45.5	59.0	12.2	7 58.90	2 38.880		
	5680, B.A.C.	8.3	21.0	34.7	11 21.33	1 50.834	— 3 22.43	— 18.225
	Irene	26.2	39.2	52.0	13 39.20	2 38.805		
	5680, B.A.C.	48.5	1.3	15.0	17 1.60	1 50.600	— 3 22.40	— 18.384
	Irene	6.2	-	32.0	18 19.10	2 38.707		
	5680, B.A.C.	27.5	40.7	54.0	21 40.73	1 50.220	— 3 21.63	— 18.666
	Irene	22.0	35.2	48.5	23 35.23	2 38.342		
	5680, B.A.C.	43.7	57.2	10.0	26 56.97	1 50.050	— 3 21.74	— 18.471
26	Irene	21.0	34.0	48.0	6 57 34.33	2 56.651		
	5680, B.A.C.	14.2	27.2	41.0	59 27.47	1 50.710	— 1 53.14	— 36.120
	Irene	10.2	24.2	37.0	7 1 23.80	2 56.304		
	5680, B.A.C.	3.5	16.0	30.2	3 16.57	1 50.620	— 1 52.77	— 35.863
	Irene	30.4	43.6	57.3	4 43.77	2 56.250		
	5680, B.A.C.	23.0	36.2	49.7	6 36.30	1 50.481	— 1 52.53	— 35.948
	Irene	17.5	30.8	44.2	7 30.83	2 56.079		
	5680, B.A.C.	10.5	23.6	37.2	9 23.77	1 50.420	— 1 52.94	— 35.838
	Irene	47.2	1.0	14.6	11 0.93	2 55.529		
	5680, B.A.C.	39.7	53.8	- -	12 53.88	1 49.689	— 1 52.95	— 36.019
	Irene	58.7	12.2	25.0	14 11.97	2 25.550		
	5680, B.A.C.	51.2	4.0	18.0	16 4.40	1 49.532	— 1 52.43	— 36.197
	Irene	41.0	54.6	8.2	16 54.60	2 55.272		
	5680, B.A.C.	32.5	46.2	59.5	18 46.07	1 49.418	— 1 51.47	— 36.033
	Irene	36.0	49.1	2.8	19 49.30	2 55.002		
	5680, B.A.C.	27.5	41.2	54.0	21 40.90	1 49.159	— 1 51.60	— 36.022
	Irene	13.5	26.5	39.5	23 26.50	2 54.931		
	5680, B.A.C.	4.7	18.0	31.2	25 17.97	1 48.969	— 1 51.47	— 36.141
	Irene	5.2	18.2	31.7	26 18.37	2 54.719		
	5680, B.A.C.	56.2	9.4	23.0	28 9.53	1 48.798	— 1 51.16	— 36.100
Oct. 7	(* 12) W.	8.0	21.6	35.5	6 35 21.70	1 54.261	+ 0 55.70	— 7.364
	Irene	4.0	17.2	31.0	36 17.40	1 61.625		
	(* 12) W.	23.2	36.2	49.5	37 36.30	2 23.865	+ 0 55.10	— 7.345
	Irene	18.0	31.2	45.0	38 31.40	2 31.210		
	(* 12) W.	33.2	46.2	59.5	40 46.30	2 23.850	+ 0 54.70	— 7.192
	Irene	28.5	41.5	53.0	41 41.00	2 31.042		
	(* 12) W.	42.1	55.5	9.5	42 55.70	2 23.659	+ 0 55.50	— 7.436
	Irene	38.1	51.0	4.5	43 51.20	2 31.095		

RESULTS.

Corr. Chron. + 0 m. 10.10 s.

	a	δ
5680, B.A.C.,	h. m. s. 16 45 51.93	° ′ ″ −23 15 45.39

Irene—5680, B.A.C.,

	△a	△δ
M. T. h. m. s. 7 20 5.58	m. s. — 4 50.75	′ ″ — 0 7.64
Δt	— .80	
Δϱ	— .00	— .02
p	+ .12	+ 2.53

Corr. Chron. + 0 m. 7.46 s.

	a	δ
5680, B.A.C.,	h. m. s. 16 45 51.91	° ′ ″ −23 15 45.37

Irene—5680, B.A.C.,

	△a	△δ
M. T. h. m s. 7 13 26.28	m. s. — 3 22.18	′ ″ — 4 42.97
Δt	— .55	
Δϱ	— .03	— .67
p	+ .12	+ 2.53

Corr. Chron. + 0 m. 5.23 s.

	a	δ
5680, B.A.C.,	h. m. s. 16 45 51.89	° ′ ″ −23 15 45.34

Irene—5680, B.A.C.,

	△a	△δ
M. T. h. m. s. 7 12 22.67	m. s. — 1 52.25	′ ″ — 9 13.74
Δt	— .30	
Δϱ	— .06	— 1.35
p	+ .12	+ 2.51

Corr. Chron. — 0 m. 30.20 s.

	a	δ
(* 12) W.,	h. m. s. 17 0 11.73	° ′ ″ −24 9 38.51

Irene—(* 12) W.,

	△a	△δ
M. T. h. m. s. 6 41 59.71	m. s. + 0 55.56	′ ″ — 1 52.98
Δt	+ .15	
Δϱ	— .02	— .29
p	+ .11	+ 2.40

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 7	5730, B.A.C.	9.5	22.5	36.0	6 45 12.67	1 21 009		
	5742, B.A.C.	6.0	19.5	33.0	46 19.50	1 21.660		
	(* 12) W.	52.0	6.0	19.2	51 5.73	2 23.173	+ 0 56.80	— 7.417
	Irene	49.0	2.5	16.1	52 2.53	2 30.590		
8	(* 12) W.	25.0	39.0	52.0	7 6 38.67	2 22.910	+ 1 34.13	— 22.048
	Irene	- -	13.0	26.0	8 12.80	3 15.022		
	(* 12) W.	5.8	19.5	33.0	12 19.43	2 22.266	+ 1 34.07	— 22.553
	Irene	40.0	- -	7.0	13 53.50	3 14.883		
10	Irene	4.2	17.7	31.0	6 42 17.63	3 42.089		
	5829, B.A.C.	1.3	15.0	28.2	45 14.83	1 40.680	— 2 57.20	— 61.524
	5827, B.A.C.	1.0	14.8	28.0	45 14.60	1 39.820	— 2 56.97	— 62.384
	Irene	41.9	56.0	9.2	48 55.70	3 42.010		
	5829, B.A.C.	39.0	52.3	6.3	51 52.53	1 40.560	— 2 56.83	— 61.565
	5827, B.A.C.	38.5	52.1	6.0	51 52.27	1 39.730	— 2 56.57	— 62.395
	Irene	17.5	31.0	44.0	54 30.83	3 41.642		
	5829, B.A.C.	14.3	28.0	41.2	57 27.83	1 40.168	— 2 57.00	— 61.589
	5827, B.A.C.	14.0	- -	41.0	57 27.50	1 39.359	— 2 56.67	— 62.398
11	Irene	9.5	23.1	36.0	6 29 22.87	3 41.830		
	5827, B.A.C.	30 0	43.2	57.0	30 43.40	1 26.425	— 1 20.53	— 75.520
	Irene	54.1	7.0	21.0	35 7.37	3 41.491		
	5827, B.A.C.	- -	27.6	40.0	36 27.68	1 26.160	— 1 20.31	— 75.446
	Irene	36.0	50.0	3.0	38 49.67	3 41.501		
	5827, B.A.C.	56.0	9.0	23.0	40 9.33	1 26.045	— 1 19.66	— 75.571
	Irene	51.0	4.2	18.0	42 4.40	3 41.241		
	5827, B.A.C.	10.0	23.0	37.0	43 23.33	1 25.879	— 1 18.93	— 75.477
	Irene	3.0	16.2	29.2	45 16.13	3 41.179		
	5827, B.A.C.	22.0	35.0	49.0	46 35.33	1 25.622	— 1 19.20	— 75.672
	Irene	25.0	39.0	52.0	49 38.67	3 41.169		
	5827, B.A.C.	- -	57.5	11.0	50 57.58	1 25.342	— 1 18.91	— 75.942
13	Irene	56.5	10.0	23.0	6 31 9.83	1 46.676		
	5846, B.A.C.	37.5	50.3	4.0	32 50.60	3 30.898	— 1 40.77	+ 44.337
	5851, B.A.C.	- -	9.0	22.5	33 9.07	3 53.006	— 1 59.24	+ 66.445
	Irene	4.2	18.0	31.5	37 17.90	1 46.318		
	5846, B.A.C.	44.3	58.0	12.0	38 58.10	3 30.540	— 1 40.20	+ 44.337
	5851, B.A.C.	2.5	16.3	30.2	39 16.33	3 52.561	— 1 58.43	+ 66.358
	Irene	54.0	7.0	21.2	41 7.40	1 46.266		
	5846, B.A.C.	33.6	47.0	0.9	42 47.16	3 30.191	— 1 39.76	+ 44.040
	5851, B.A.C.	51.8	5.3	19.2	43 5.43	3 52.360	— 1 58.03	+ 66.209
	Irene	38.2	51.5	5.0	44 51.57	1 45.991		
	5846, B.A.C.	17.9	31.2	45.1	46 31.40	3 30.011	— 1 39.83	+ 44.135
	5851, B.A.C.	36.3	49.5	3.0	46 49.60	3 52.069	— 1 58.03	+ 66.193
	Irene	41.2	55.0	9.0	48 55.06	1 45.710		
	5846, B.A.C.	20.5	34.0	48.1	50 34.20	3 29.560	— 1 39.14	+ 43.965
	5851, B.A.C.	39.2	52.2	6.0	50 52.47	3 51.742	— 1 57.41	+ 66.146
	Irene	54.3	8.0	21.0	52 7.77	1 45.479		
	5846, B.A.C.	33.2	47.0	0.9	54 47.03	3 29.238	— 1 39.26	+ 43.874
	5851, B.A.C.	- -	4.9	19.3	55 4.97	3 51.191	— 1 57.20	+ 65.827

RESULTS.

Corr. Chron. — 0 m. s. 32.82

	α	δ
(* 12) W.,	h. m. s. 17 0 11.70	° ′ ″ —24 9 38.47

Irene—(* 12) W.,

		Δα	Δδ
M. T.	h. m. s. 7 10 30.28	m. s. + 1 34.10	′ ″ — 5 42.76
	Δt +	.25	
	Δρ —	.08	— 1.38
	p +	.13	+ 2.31

Corr. Chron. — 0 m. s. 37.55

	α	δ
5829, B.A.C.,	h. m. s. 17 8 56.44	° ′ ″ —24 6 58.37
5827, B.A.C.,	17 8 56.51	—24 7 7.38

Irene—5829, B.A.C.,

		Δα	Δδ
M. T.	h. m. s. 6 47 57.17	m. s. — 2 57.01	′ ″ —15 46.14
	Δt —	.49	
	Δρ —	.14	— 2.78
	p +	.12	+ 2.34

Irene—5827, B.A.C.,

M. T.	h. m. s. 6 47 57.17	m. s. — 2 56.74	′ ″ —15 58.94
	Δt —	.49	
	Δρ —	.14	— 2.82
	p +	.12	+ 2.34

Corr. Chron. — 0 m. s. 40.54

	α	δ
5827, B.A.C.,	h. m. s. 17 8 56.50	° ′ ″ —24 7 7.35

Irene—5827, B.A.C.,

		Δα	Δδ
M. T.	h. m. s. 6 39 22.64	m. s. — 1 19.59	′ ″ —19 22.00
	Δt —	.21	
	Δρ —	.16	— 3.20
	p +	.11	+ 2.34

Corr. Chron. — 0 m. s. 46.52

	α	δ
5846, B.A.C.,	h. m. s. 17 12 34.39	° ′ ″ —24 44 59.62
5851, B.A.C.,	17 12 52.53	—24 50 42.73

Irene—5846, B.A.C.,

		Δα	Δδ
M. T.	h. m. s. 6 41 48.40	m. s. — 1 39.83	′ ″ +11 18.03
	Δt —	.27	
	Δρ +	.11	+ 2.11
	p +	.12	+ 2.37

Irene—5851, B.A.C.,

M. T.	h. m. s. 6 41 48.40	m. s. — 1 58.06	′ ″ +16 57.41
	Δt —	.32	
	Δρ +	.16	+ 3.18
	p +	.12	+ 2.37

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 15	5846, B.A.C.	12.3	26.0	39.3	6 23 25.87	2 51.625	+ 1 37.63	+ 17.645
	5851, B.A.C.	30.3	44.1	57.0	23 43.80	3 43.796	+ 1 19.70	+ 39.752
	Irene	50.0	3.5	17.0	25 3.50	2 33.980		
	5846, B.A.C.	21.0	35.0	48.2	27 34.73	2 45.390	+ 1 38.52	+ 17.395
	5851, B.A.C.	39.2	53.3	6.8	27 53.10	3 37.865	+ 1 20.15	+ 39 806
	Irene	59.5	- -	27.0	29 13.25	2 27.995		
	5846, B.A.C.	19.2	33.0	46.5	31 32.90	2 45.221	+ 1 39.07	+ 17.643
	5851, B.A.C.	37.5	51.2	5.0	31 51.23	3 37.659	+ 1 20.74	+ 40.017
	Irene	58.0	12.5	25.4	33 11.97	2 27.578		
	5846, B.A.C.	1.3	14.9	29.0	35 15.07	2 44.941	+ 1 38.73	+ 17.539
	5851, B.A.C.	19.8	33.2	47.2	35 33.40	3 37.318	+ 1 20.40	+ 39.852
	Irene	40.3	53.9	7.2	36 53.80	2 27.402		
	5846, B.A.C.	27.2	41.2	54.1	38 40.83	2 44.522	+ 1 39.07	+ 17.404
	5851, B.A.C.	45.5	59.2	12.2	38 58.97	3 36.642	+ 1 20.93	+ 39.460
	Irene	- -	20.0	33.5	40 19.90	2 27.118		
	5846, B.A.C.	20.2	34.0	47.5	42 33.90	2 44.221	+ 1 39.20	+ 17.761
	5851, B.A.C.	38.7	52.0	5.7	42 52.13	3 36.634	+ 1 20.97	+ 40.110
	Irene	59.3	13.0	27.0	44 13.10	2 26.460		
24	(* 13) W.	43.5	56.2	10.5	6 17 56.40	1 35.595	+ 0 44.62	— 59.962
	Irene	- -	41.0	54.5	18 41.02	3 35.442		
	(* 13) W.	51.2	4.7	18.1	20 4.67	1 35.398	+ 0 44.55	— 59.992
	Irene	- -	49.2	3.7	20 49.22	3 35.275		
	(* 13) W.	30.5	44.0	57.2	23 43.90	1 35.090	+ 0 45.22	— 60.000
	Irene	- -	29.1	42.0	24 29.12	3 34.975		
27	Irene	- -	4.0	17.5	6 17 4.00	2 42.629		
	32418, Lalande	39.0	52.5	6.0	20 52.50	1 43.261	— 3 48.50	— 29.547
	Irene	52.0	- -	19.0	25 5.50	2 46.656		
	32418, Lalande	40.7	54.0	8.0	28 54.23	1 47.072	— 3 48.73	— 29.763
	Irene	43.0	56.5	10.0	30 56.50	2 45.695		
	32418, Lalande	30.7	44.3	58.2	34 44.40	1 46.229	— 3 47.90	— 29.645
	Irene	41.3	55.6	9.0	36 55.30	2 44.695		
	32418, Lalande	29.5	43.0	57.0	40 43.10	1 45.243	— 3 47.80	— 29.631
31	Irene	58.0	12.0	25.0	6 11 11.67	1 38.308		
	32559, Lalande	- -	- -	22.0	12 8.52	3 52.450	— 0 56.85	+ 74.257
	Irene	- -	53.5	7.0	14 53.43	1 37.742		
	32559, Lalande	- -	49.6	3.7	15 49.53	3 52.000	— 0 56.10	+ 74.373
	Irene	7.2	21.0	35.0	16 21.07	1 37.460		
	32559, Lalande	3.7	17.0	31.0	17 17.23	3 51.628	— 0 56.16	+ 74.283
	Irene	45.6	59.2	12.0	19 58.93	1 37.299		
	32559, Lalande	41.2	55.1	9.1	20 55.13	3 51.388	— 0 56.20	+ 74.204

RESULTS.

Oct. 15

Corr. Chron. — 0 m. s. 53.83

	a (h. m. s.)	δ (° ′ ″)
5846, B.A.C.,	17 12 34.37	—24 44 59.56
5851, B.A.C.,	17 12 52.52	—24 50 42.67

Irene—5846, B.A.C.,

	h. m. s.		Δa (m. s.)		Δδ (′ ″)
M. T.	6 33 55.42		+ 1 38.70		+ 4 29.97
		Δt	+ .27		
		Δρ	+ .05		+ .92
		p	+ .12		+ 2.36

Irene—5851, B.A.C.,

	h. m. s.		Δa (m. s.)		Δδ (′ ″)
M. T.	6 33 55.42		— 1 20.48		+10 12.22
		Δt	— .21		
		Δρ	+ .10		+ 1.90
		p	+ .12		+ 2.36

24

Corr. Chron. + 0 m. s. 32.02

	a (h. m. s.)	δ (° ′ ″)
(* 13) W.,	17 28 39.10	—24 42 11.82

Irene—(* 13) W.,

	h. m. s.		Δa (m. s.)		Δδ (′ ″)
M. T.	6 21 51.81		+ 0 44.80		—15 21.94
		Δt	+ .12		
		Δρ	— .17		— 3.22
		p	+ .11		+ 2.20

27

Corr. Chron. + 0 m. s. 20.51

	a (h. m. s.)	δ (° ′ ″)
32418, Lalande,	17 38 33.31	—25 7 38.57

Irene—32418, Lalande,

	h. m. s.		Δa (m. s.)		Δδ (′ ″)
M. T.	6 27 50.83		— 3 48.23		— 7 35.66
		Δt	— .62		
		Δρ	— .11		— 1.93
		p	+ .12		+ 2.17

31

Corr. Chron. + 0 m. s. 4.50

	a (h. m. s.)	δ (° ′ ″)
32559, Lalande,	17 42 41.99	—25 43 33.23

Irene—32559, Lalande,

	h. m. s.		Δa (m. s.)		Δδ (′ ″)
M. T.	6 15 36.73		— 0 56.33		+19 1.66
		Δt	— .15		
		Δρ	+ .28		+ 4.93
		p	+ .12		+ 2.16

VESTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 18	5771, B.A.C.	53.7	6.6	19.6	17 20 6.63	1 36.301	+ 0 40.50	— 57.492
	Vesta	34.2	47.0	0.2	20 47.13	3 33.678		
	5771, B.A.C.	15.3	28.2	41.2	22 28.23	1 36.420	+ 0 40.46	— 57.343
	Vesta	55.8	8.7	21.6	23 8.69	3 33.648		
	5771, B.A.C.	36.0	48.8	1.9	24 48.86	1 36.473	+ 0 40.47	— 57.392
	Vesta	16.3	29.4	42.3	25 29.33	3 33.750		
	5771, B.A.C.	46.4	59.4	12.3	26 59.32	1 36.452	+ 0 40.31	— 57.328
	Vesta	26.8	39.6	52.6	27 39.63	3 33.665		
	5771, B.A.C.	12.3	24.9	38.3	29 25.15	1 36.473	+ 0 40.13	— 57.593
	Vesta	52.4	5.2	18.3	30 5.28	3 33.951		
	5771, B.A.C.	36.8	49.8	2.7	31 49.78	1 36.450	+ 0 40.07	— 57.404
	Vesta	17.1	29.7	42.8	32 29.85	3 33.739		
July 13	Vesta	49.0	1.8	15.7	18 23 2.15	3 39.860		
	30641, Lalande	14.6	27.5	40.4	23 27.49	1 53.670	— 0 25.34	— 46.305
	Vesta	29.9	43.2	56.7	25 43.29	3 39.705		
	30641, Lalande	55.8	8.9	22.0	26 8.90	1 53.590	— 0 25.61	— 46.230
	Vesta	10.5	23.6	37.1	28 23.72	3 39.610		
	30641, Lalande	36.2	49.5	2.6	28 49.43	1 53.408	— 0 25.71	— 46.317
	Vesta	6.6	19.6	33.2	30 19.83	3 39.481		
	30641, Lalande	32.6	45.6	58.8	30 45.68	1 53.322	— 0 25.85	— 46.274
	Vesta	10.5	23.5	37.1	32 23.69	3 39.401		
	30641, Lalande	36.4	49.4	2.5	33 49.39	1 53.346	— 0 25.70	— 46.170
	Vesta	17.8	30.8	44.4	34 31.01	3 39.432		
	30641, Lalande	43.7	56.8	9.9	35 56.82	1 53.240	— 0 25.81	— 46.307
	Vesta	21.7	34.7	47.9	36 34.76	3 39.332		
	30641, Lalande	47.4	0.5	13.7	37 0.55	1 53.061	— 0 25.79	— 46.386
	Vesta	51.9	9.7	23.3	39 9.98	3 39.095		
	30641, Lalande	22.6	35.6	48.9	39 35.74	1 52.801	— 0 25.76	— 46.409
	Vesta	16.4	29.6	42.9	41 29.63	3 39.049		
	30641, Lalande	42.4	55.5	8.9	41 55.59	1 52.670	— 0 25.96	— 46.494
	Vesta	22.1	33.6	- -	43 33.69	3 38.888		
	30641, Lalande	46.9	0.3	13.1	44 0.10	1 52.543	— 0 26.41	— 46.460
17	30600, Lalande	55.9	9.0	22.3	18 11 9.06	2 30.490	+ 0 3.07	— 3.492
	Vesta	59.1	12.1	25.2	11 12.13	2 33.982		
	30600, Lalande	13.9	26.9	40.0	12 26.72	2 30.250	+ 0 3.23	— 3.575
	Vesta	16.7	30.0	43.2	12 29.95	2 33.825		
	30600, Lalande	35.9	49.1	1.8	14 48.95	2 30.348	+ 0 2.87	— 3.663
	Vesta	38.9	51.8	4.8	14 51.82	2 34.011		
	30600, Lalande	44.3	57.3	10.3	14 57.30	2 30.337	+ 0 3.02	— 3.664
	Vesta	47.4	0.5	13.1	15 0.32	2 34.001		
	30600, Lalande	56.4	9.6	22.4	16 9.49	2 30.232	+ 0 3.23	— 3.794
	Vesta	59.7	12.8	25.7	16 12.72	2 34.026		
	30600, Lalande	6.0	18.9	32.1	17 18.97	2 30.248	+ 0 3.29	— 3.647
	Vesta	9.2	22.2	35.3	17 22.26	2 33.895		
	30600, Lalande	17.5	30.4	43.7	18 30.53	2 30.230	+ 0 3.10	— 3.818
	Vesta	20.7	33.6	46.6	18 33.63	2 34.048		

RESULTS.

Corr. Chron. + 0 37.54 m. s.

	α	δ
	h. m. s.	° ′ ″
5771, B.A.C.,	16 59 37.90	—17 24 24.65

Vesta—5771, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	17 27 14.19	+ 0 40.32	—14 42.60
		Δρ — .00	— .80
		p + .05	+ 6.13

Corr. Chron. + 0 36.28 m. s.

	α	δ
	h. m. s.	° ′ ″
30641, Lalande,	16 43 39.98	—19 5 53.73

Vesta—30641, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	18 34 7.46	— 0 25.79	—11 52.15
		Δρ — .02	— .86
		p + .17	+ 5.47

Corr. Chron. + 0 47.97 m. s.

	α	δ
	h. m. s.	° ′ ″
30600, Lalande,	16 42 11.47	—19 34 31.91

Vesta—30600, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	18 23 12.29	+ 0 3.08	— 0 57.50
		Δρ — .01	— .07
		p + .15	+ 5.38

(Continued.)

VESTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 17	30600, Lalande	29.3	42.5	55.5	18 19 42.44	2 30.172	+ 0 3.17	— 3.786
	Vesta	32.5	45.6	58.7	19 45.61	2 33.958		
	30600, Lalande	46.1	59.0	12.3	20 59.13	2 30.148	+ 0 3.20	— 3.875
	Vesta	49.3	2.3	15.3	21 2.33	2 34.023		
	30600, Lalande	0.4	13.5	26.3	22 13.41	2 30.282	+ 0 3.15	— 3.749
	Vesta	3.5	16.7	29.5	22 16.56	2 34.031		
	30600, Lalande	28.7	41.9	-	27 41.95	2 30.160	+ 0 3.05	— 3.820
	Vesta	-	44.9	57.9	27 45.00	2 33.980		
	30600, Lalande	44.0	56.9	10.4	29 57.08	2 30.205	+ 0 2.77	— 3.795
	Vesta	47.1	59.2	13.3	29 59.85	2 34.000		
	30600, Lalande	0.4	-	-	30 13.47	2 30.158	+ 0 2.86	— 3.791
	Vesta	-	-	29.4	30 16.33	2 33.949		
	30600, Lalande	-	21.8	-	31 21.85	2 30.141	+ 0 3.05	— 3.809
	Vesta	11.9	24.9	37.9	31 24.90	2 33.950		
	30600, Lalande	25.4	38.6	51.4	32 38.47	2 30.112	+ 0 3.01	— 3.848
	Vesta	28.6	41.5	54.4	32 41.48	2 33.960		
	30600, Lalande	14.1	27.0	-	37 27.05	2 30.145	+ 0 3.22	— 3.735
	Vesta	17.3	30.3	43.3	37 30.27	2 33.880		
20	Vesta	47.2	0.2	12.9	11 22 0.10	3 54.041		
	30600, Lalande	7.2	-	32.7	22 19.95	1 56.332	— 0 19.85	— 57.824
	Vesta	52.0	5.1	18.0	24 5.03	3 53.918		
	30600, Lalande	-	24.3	37.5	24 24.17	1 56.129	— 0 19.14	— 57.904
	Vesta	49.2	2.4	14.9	26 2.16	3 53.810		
	30600, Lalande	9.1	-	35.0	26 22.05	1 56.040	— 0 19.89	— 57.885
	Vesta	40.6	53.2	-	27 53.38	3 53.805		
	30600, Lalande	0.3	12.9	26.0	28 13.06	1 56.034	— 0 19.78	— 57.886
	Vesta	31.7	44.6	56.9	29 44.40	3 53.830		
	30600, Lalande	51.0	-	17.2	30 4.10	1 55.925	— 0 19.70	— 58.020
	Vesta	24.8	38.1	50.3	31 37.72	3 53.672		
	30600, Lalande	44.1	57.0	10.5	31 57.20	1 55.753	— 0 19.48	— 58.034
	Vesta	27.0	40.2	-	33 40.29	3 53.470		
	30600, Lalande	46.2	0.2	12.5	33 59.63	1 55.722	— 0 19.34	— 57.863
	Vesta	47.2	0.2	-	36 0.29	3 53.430		
	30600, Lalande	7.1	19.7	32.8	36 19.86	1 55.629	— 0 19.57	— 57.916
	Vesta	58.7	11.7	-	38 11.79	3 53.290		
	30600, Lalande	18.3	31.2	44.2	38 31.23	1 55.592	— 0 19.44	— 57.813
	Vesta	49.1	1.5	14.0	40 1.53	3 53.511		
	30600, Lalande	8.2	21.1	34.2	40 21.16	1 55.491	— 0 19.63	— 58.135
Aug. 12	Vesta	16.5	29.7	43.3	18 20 29.81	2 46.342		
	30788, Lalande	17.6	31.0	44.5	20 31.04	1 51.168	— 0 1.23	— 25.353
	Vesta	58.6	11.7	25.2	22 11.83	2 46.255		
	30788, Lalande	59.8	13.0	26.3	22 13.05	1 51.310	— 0 1.22	— 25.124
	Vesta	17.1	30.4	43.6	23 30.37	2 46.488		
	30788, Lalande	18.3	31.6	44.8	23 31.57	1 51.172	— 0 1.20	— 25.495
	Vesta	34.4	47.9	1.0	24 47.78	2 46.308		
	30788, Lalande	35.9	48.9	2.1	24 48.93	1 51.092	— 0 1.15	— 25.395

RESULTS.

Corr. Chron. — 1 m. s. 10.37

	α	δ
30600, Lalande,	h. m. s. 16 42 11.45	° ′ ″ —19 34 31.91

Vesta—30600, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	11 29 45.30	— 0 19.58	—14 50.33
	Δt —	.05	
	Δρ —	.06	— 1.49
	p +	.23	+ 5.05

Corr. Chron. + 0 m. s. 7.28

	α	δ
30788, Lalande,	h. m. s. 16 48 50.43	° ′ ″ —21 32 6.94

Vesta—30788, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	18 23 31.91	— 0 1.17	— 6 30.03
	Δρ —	.01	— .51
	p +	.12	+ 4.62

(Continued.)

VESTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 12	Vesta	50.0	3.4	16.7	18 26 3.36	2 46.400		
	30788, Lalande	51.1	4.3	17.8	26 4.41	1 51.061	— 0 1.05	— 25.518
13	30788, Lalande	58.2	11.5	24.7	18 24 11.46	1 47.545	+ 0 39.23	— 44.140
	Vesta	37.5	50.6	4.0	24 50.69	3 31.570		
	30788, Lalande	17.7	30.9	44.2	26 30.91	1 47.462	+ 0 39.42	— 44.283
	Vesta	57.2	10.1	23.7	27 10.33	3 31.630		
	30788, Lalande	40.8	53.9	7.1	27 53.91	1 47.460	+ 0 39.25	— 44.228
	Vesta	20.0	33.0	46.4	28 33.16	3 31.573		
	30788, Lalande	25.1	38.8	51.8	29 38.56	1 47.408	+ 0 39.35	— 44.234
	Vesta	4.8	17.8	31.2	30 17.91	3 31.527		
	30788, Lalande	7.8	21.2	34.3	31 21.09	1 47.385	+ 0 39.28	— 44.209
	Vesta	47.3	0.2	13.6	32 0.37	3 31.479		
	30788, Lalande	51.0	4.9	..	33 4.98	1 47.331	+ 0 39 61	— 44.293
	Vesta	30.5	43.6	56.8	33 43.59	3 31.509		
	30788, Lalande	58.5	11.7	25.0	35 11.72	1 47.342	+ 0 39.60	— 44.309
	Vesta	38.3	51.1	4.5	36 51.32	3 31.536		
	30788, Lalande	13.6	26.9	40.1	37 26.84	1 47.192	+ 0 39.64	— 44.428
	Vesta	53.3	6.4	19.7	38 6.48	3 31.505		
	30788, Lalande	13.7	26.8	40.0	39 26.85	1 47.242	+ 0 39.59	— 44.422
	Vesta	53.2	6.5	19.7	40 6.44	3 31.549		
	30788, Lalande	12.9	26.1	39.3	41 26.11	1 47.251	+ 0 39.68	— 44.389
	Vesta	52.6	5.7	19.0	42 5.79	3 31.525		
	30788, Lalande	58.0	11.3	24.3	44 11.21	1 47.166	+ 0 39.80	— 44.531
	Vesta	37.9	50.8	4.3	44 51.01	3 31.582		
	30788, Lalande	13.9	27.2	40.4	52 27.14	1 47.021	+ 0 39.98	— 44.604
	Vesta	54.0	7.3	20.1	53 7.12	3 31.510		
	30788, Lalande	10.0	23.3	36.6	54 23.28	1 47.033	+ 0 40.16	— 44.540
	Vesta	50.3	3.3	16.7	55 3.44	3 31.458		
	30788, Lalande	1.2	14.4	27.9	56 14.52	1 46.985	+ 0 39.97	— 44.618
	Vesta	41.3	54.5	7.7	56 54.49	3 31.488		
	30788, Lalande	0.9	14.0	27.4	57 14.09	1 46.950	+ 0 40.16	— 44.637
	Vesta	40.9	54.3	7.6	57 54.25	3 31.472		
	30788, Lalande	22.5	36.0	49.0	19 0 35.84	1 46.961	+ 0 40.65	— 44.534
	Vesta	3.2	16.4	29.8	1 16.49	3 31.380		
14	30788, Lalande	35.1	38.5	51.5	18 59 38.36	1 35.910	+ 1 22.39	— 63.116
	Vesta	47.5	0.8	14.0	19 1 0.75	3 38.911		
	30788, Lalande	47.4	0.6	14.0	2 0.65	1 35.860	+ 1 22.50	— 63.217
	Vesta	10.0	23.1	36.3	3 23.15	3 38.962		
	30788, Lalande	29.4	42.8	56.3	4 42.82	1 35.870	+ 1 22.78	— 63.017
	Vesta	52.3	5.5	19.0	6 5.60	3 38.772		
	30788, Lalande	48.2	1.6	15.0	8 1.59	1 35.719	+ 1 22.60	— 63.145
	Vesta	10 9	24.1	37.6	9 24.19	3 38.749		
	30788, Lalande	21.9	35.4	48.7	11 35.33	1 35.720	+ 1 23.51	— 63.255
	Vesta	45.6	58.6	12.3	12 58.84	3 38.860		
	30788, Lalande	53.9	7.9	20.3	14 7.15	1 35.700	+ 1 22.82	— 63.143
	Vesta	16.9	29.8	43.3	15 29.97	3 38.728		

RESULTS.

Corr. Chron. + 0 m. 7.49 s.

	α	δ
30788, Lalande,	16 h. 48 m. 50.41 s.	−21° 32′ 6.90″

Vesta—30788, Lalande,

	Δα	Δδ
Sid. T. 18 h. 41 m. 33.29 s.	+ 0 m. 39.65 s.	−11′ 22.40″
Δρ	− .03	− .97
p	+ .14	+ 4.53

Corr. Chron. + 0 m. 7.65 s.

	α	δ
30788, Lalande,	16 h. 48 m. 50.40 s.	−21° 32′ 6.87″

Vesta—30788, Lalande,

	Δα	Δδ
Sid. T. 19 h. 15 m. 27.54 s.	+ 1 m. 22.93 s.	−16′ 12.33″
Δρ	− .07	− 1.70
p	+ .18	+ 4.38

(Continued.)

VESTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 14	30788, Lalande	22.0	35.2	48.7	19 16 35.29	1 35.569	+ 1 22.93	— 63.332	
	Vesta	45.0	58.1	11.6	17 58.22	3 38.786			
	30788, Lalande	9.0	22.3	35.5	20 22.28	1 35.448	+ 1 23.25	— 63.392	
	Vesta	32.3	45.6	58.7	21 45.53	3 38.725			
	30788, Lalande	45.7	59.0	12.5	22 59.08	1 35.381	+ 1 23.18	— 63.306	
	Vesta	9.0	22.1	35.6	24 22.26	3 38.572			
	30788, Lalande	15.0	28.5	41.7	25 28.39	1 35.222	+ 1 23.20	— 63.553	
	Vesta	38.4	51.6	4.8	26 51.59	3 38.660			
	30788, Lalande	42.3	55.7	9.0	27 55.67	1 35.192	+ 1 23.03	— 63.416	
	Vesta	5.3	18.6	32.2	29 18.70	3 38.493			
15	30788, Lalande	56.8	10.1	23.6	20 5 10.14	1 30.981	+ 2 8.42	— 82.332	Corr. Chron. + 0 m. 7.89 s.
	Vesta	5.3	18.4	32.0	7 18.56	3 53.198			
	30788, Lalande	35.3	49.0	2.3	14 48.87	1 30.229	+ 2 8.50	— 82.276	30788, Lalande, a h. 16 m. 48 s. 50.38; δ −21° 32′ 6.83″
	Vesta	44.0	57.3	10.8	16 57.37	3 52.390			
	30788, Lalande	23.0	. .	49.6	17 36.31	1 29.780	+ 2 8.78	— 82.504	Vesta—30788, Lalande,
	Vesta	32.2	45.2	57.6	19 45.09	3 52.169			

	Δa	Δδ
Sid. T. 20 h. 14 m. 48.23 s.	+ 2 m. 8.57	−21′ 6.01″
Δρ	− .25	− 4.32
p	+ .23	+ 4.10

HEBE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 20	Hebe	3.0	- -	30.3	11 54 17.65	2 36.615		
	Weisse XIX, 315	46.2	59.0	11.0	56 58.80	1 59.001	− 2 41.15	− 7.793
	Hebe	25.2		- -	59 37.90	2 36.710		
	Weisse XIX, 315	6.0	19.2	31.2	12 2 18.13	1 58.978	− 2 40.23	− 7.911
	Hebe	46.2	59.0	- -	3 59.00	1 67.072		
	Weisse XIX, 315	28.2	40.2	52.0	6 40.13	1 58.878	− 2 41.13	− 8.194
	Hebe	8.8	- -	34.0	8 21.40	1 67.199		
	Weisse XIX, 315	49.2	2.0	14.3	11 1.83	1 58.908	− 2 40.43	− 8.291
	Hebe	55.5	7.0	- -	12 7.00	1 67.082		
	Weisse XIX, 315	37.0	49.0	2.0	14 49.33	1 58.851	− 2 42.33	− 8.231
	Hebe	37.0	- -	2.5	17 49.75	1 67.231		
	Weisse XIX, 315	19.2	31.2	44.0	20 31.46	1 58.839	− 2 41.71	− 8.392
	Hebe	38.0	- -	3.0	27 50.50	1 67.462		
	Weisse XIX, 315	19.3	32.0	44.6	30 31.96	1 58.769	− 2 41.46	− 8.693
	Hebe	50.2	3.0	15.0	34 2.73	2 37.390		
	Weisse XIX, 315	33.2	45.2	58.3	36 45.57	2 28.634	− 2 42.84	− 8.756
	Hebe	29.2	41.2	53.5	38 41.30	2 37.572		
	Weisse XIX, 315	12.0	24.0	37.0	41 24.33	2 28.591	− 2 43.03	− 8.981
	Hebe	59.5	12.0	24.1	46 11.86	2 37.781		
	Weisse XIX, 315	43.0	55.3	8.0	48 55.43	2 28.770	− 2 43.57	− 9.011
Aug. 6	Hebe	32.3	45.0	57.0	11 10 44.76	3 36.458		
	Weisse XVIII, 1547	7.0	19.1	32.0	14 19.70	2 26.058	− 3 34.94	− 40.336
	Hebe	33.2	46.1	59.0	16 46.10	3 36.510		
	Weisse XVIII, 1547	8.3	20.4	33.6	20 20.76	2 25.960	− 3 34.66	− 40.486
	Hebe	38.9	52.5	5.2	22 52.20	3 36.618		
	Weisse XVIII, 1547	13.7	26.9	39.3	25 26.63	2 25.936	− 3 34.43	− 40.618
	Hebe	8.2	20.9	33.3	27 20.80	3 36.821		
	Weisse XVIII, 1547	43.1	55.0	8.0	30 55.36	2 25.929	− 3 34.56	− 40.828
	Hebe	49.1	1.3	14.3	33 1.56	3 36.962		
	Weisse XVIII, 1547	24.3	36.7	49.1	36 36.70	2 25.989	− 3 35.14	− 40.909
12	Weisse XVIII, 1344	42.0	- -	7.2	10 23 54.60	3 49.660	+ 0 8.90	+ 76.743
	Hebe	51.0	- -	16.0	24 3.50	1 33.032		
	Weisse XVIII, 1344	57.0	- -	22.0	27 9.50	3 49.740	+ 0 9.00	+ 76.665
	Hebe	6.0	- -	31.0	27 18.50	1 33.190		
	Weisse XVIII, 1344	51.0	- -	17.0	48 4.00	3 49.531	+ 0 8.25	+ 75.967
	Hebe	59.5	- -	25.0	48 12.25	1 33.679		
	Weisse XVIII, 1344	0.0	- -	25.5	51 12.75	3 49.599	+ 0 8.30	+ 75.935
	Hebe	9.1	- -	33.0	51 21.05	1 33.779		
	Weisse XVIII, 1344	27.1	- -	53.1	53 40.10	3 49.629	+ 0 8.40	+ 75.953
	Hebe	36.0	- -	1.0	53 48.50	1 33.791		
	Weisse XVIII, 1344	10.2	- -	35.0	56 22.60	3 49.569	+ 0 8.15	+ 75.846
	Hebe	18.3	- -	43.2	56 30.75	1 33.838		
13	Hebe	52.9	4.7	17.4	19 31 4.91	2 30.240		
	Weisse XVIII, 1344	9.9	22.5	35.3	31 22.57	3 37.390	− 0 17.66	+ 37.086

RESULTS.

Corr. Chron. + 0 m. s. 42.70

	a (h. m. s.)	δ (° ′ ″)
Weisse XIX, 315,	19 13 12.39	−10 25 51.67

Hebe—Weisse XIX, 315,

		Δa (m. s.)	Δδ (′ ″)
M. T.	12 19 0.61	− 2 41.79	− 2 9.49
	Δt	− .44	
	Δϱ	.00	− .09
	p	+ .09	+ 4.97

Corr. Chron. + 0 m. s. 3.90

	a (h. m. s.)	δ (° ′ ″)
Weisse XVIII, 1547,	19 0 6.03	−13 10 56.90

Hebe—Weisse XVIII, 1547,

		Δa (m. s.)	Δδ (′ ″)
M. T.	11 22 12.98	− 3 34.75	−10 24.56
	Δt	− .58	
	Δϱ	− .01	− .50
	p	+ .12	+ 5.04

Corr. Chron. − 0 m. s. 9.80

	a (h. m. s.)	δ (° ′ ″)
Weisse, 1344,	18 53 1.74	−14 43 16.50

Hebe—Weisse, 1344,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 43 22.62	+ 0 8.50	+19 30.93
	Δt	+ .02	
	Δϱ	+ .02	+ .98
	p	+ .11	+ 5.06

(Continued.)

HEBE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 13	Hebe	9.2	21.7	34.7	19 33 21.87	2 30.378		
	Weisse XVIII, 1344	27.2	39.8	52.6	33 39.85	3 37.512	− 0 17.98	+ 37.070
	Hebe	1.5	14.0	26.9	35 14.12	2 30.450		
	Weisse XVIII, 1344	19.8	32.2	44.8	35 32.26	3 37.300	− 0 18.14	+ 36.786
	Hebe	5.6	18.3	31.2	37 18.34	2 30.495		
	Weisse XVIII, 1344	23.9	36.7	49.3	37 36.60	3 37.410	− 0 18.26	+ 36.851
	Hebe	54.2	6.9	19.6	39 6.89	2 30.520		
	Weisse XVIII, 1344	12.4	25.0	37.8	39 25.06	3 37.295	− 0 18.17	+ 36.709
	Hebe	12.4	25.1	38.0	41 25.15	2 30.591		
	Weisse XVIII, 1344	30.6	43.4	56.1	41 43.26	3 37.401	− 0 18.21	+ 36.746
	Hebe	1.3	13.9	26.8	43 14.00	2 30.667		
	Weisse XVIII, 1344	19.5	32.1	44.9	43 32.15	3 37.378	− 0 18.15	+ 36.647
	Hebe	56.3	8.9	21.6	45 8.92	2 30.618		
	Weisse XVIII, 1344	14.6	27.2	41.0	45 27.61	3 37.392	− 0 18.69	+ 36.710
	Hebe	56.5	9.2	22.0	47 9.21	2 30.712		
	Weisse XVIII, 1344	14.7	27.4	40.1	47 27.50	3 37.288	− 0 18.29	+ 36.512
	Hebe	55.2	7.8	20.3	49 7.40	2 30.829		
	Weisse XVIII, 1344	13.6	26.2	39.0	49 26.22	3 37.360	− 0 18.82	+ 36.467
	Hebe	52.4	5.3	18.1	51 5.25	2 30.850		
	Weisse XVIII, 1344	11.1	23.6	36 4	51 23.71	3 37.314	− 0 18 46	+ 36.400
	Hebe	13.4	26.0	38.7	53 25.98	2 30.878		
	Weisse XVIII, 1344	31.7	44.3	57.3	53 44.46	3 37.296	− 0 18.48	+ 36.354
16	Weisse XVIII, 1276	29.2	41.3	54.2	9 35 41.56	2 34.440	+ 1 23.75	− 26.464
	Hebe	- -	5.0	18.0	37 5.31	3 30.968		
	Weisse XVIII, 1276	52.7	5.2	18.2	39 5.06	2 34.346	+ 1 23.30	− 26.685
	Hebe	- -	29.0	41.0	40 28.36	3 31.095		
	Weisse XVIII, 1276	50.0	2.8	16.0	42 2.93	2 34.377	+ 1 23.20	− 26.691
	Hebe	13.2	26.0	39.2	43 26.13	3 31.132		
	Weisse XVIII, 1276	17.2	29.7	42.7	45 29.86	2 34.262	+ 1 23.20	− 26.884
	Hebe	40.2	53.0	6.0	46 53.06	3 31.210		
	Weisse XVIII, 1276	52.2	5.7	18.2	48 5.37	2 34.308	+ 1 22.70	− 26.927
	Hebe	15.2	28.0	41.0	49 28.07	3 31.299		
	Weisse XVIII, 1276	43.6	56.0	9.2	50 56.27	2 34.320	+ 1 22.86	− 26.965
	Hebe	6.2	19.2	32.0	52 19.13	3 31.349		
	Weisse XVIII, 1276	10.2	22.7	35.7	54 22.86	2 34.340	+ 1 23.34	− 27.117
	Hebe	33.2	46.2	59.2	55 46.20	3 31.521		
	Weisse XVIII, 1276	53.2	6.2	18.7	57 6.13	2 34.321	+ 1 23.15	− 27.035
	Hebe	- -	29.2	42 0	58 29.28	3 31.420		
	Weisse XVIII, 1276	4.2	17.3	29.7	10 0 17.03	2 34.328	+ 1 23.13	− 27.136
	Hebe	27.3	40.2	53.0	1 40.16	3 31.528		
	Weisse XVIII, 1276	36.1	49.2	1.7	2 49.00	2 34.205	+ 1 22.90	− 27.361
	Hebe	59.0	12.0	24.7	4 11.90	3 31.630		
	Weisse XVIII, 1276	15.2	28.2	41.0	42 28.13	2 37.585	+ 1 22.27	− 28.361
	Hebe	38.0	50.2	3.0	44 50.40	3 36.010		
	Weisse XVIII, 1276	8.5	21.0	34.0	46 21.16	2 37.493	+ 1 21.74	− 28.461
	Hebe	30.2	43.0	55.5	47 42.90	3 36.018		

RESULTS.

m. s.
Corr. Chron. + 0 7.48

	α	δ
	h. m. s.	° ′ ″
Weisse XVIII, 1344,	18 53 1.73	−14 43 16.51

Hebe—Weisse XVIII, 1344,

		△α	△δ
	h. m. s.	m. s.	′ ″
Sid. T.	19 42 20.98	− 0 18.28	+ 9 23.99
	Δϱ	.00	+ .45
	p +	.07	+ 5.06

m. s.
Corr. Chron. − 0 21.87

	α	δ
	h. m. s.	° ′ ″
Weisse XVIII, 1276,	18 50 9.91	−14 57 38.28

Hebe—Weisse XVIII, 1276,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 59 49.87	+ 1 22.96	− 6 57.65
	Δt +	.22	
	Δϱ	.00	− .34
	p +	.07	+ 5.03

(Continued.)

HEBE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 26	Hebe	14.2	27.4	40.4	21 46 27.36	1 31.740		
	35468, Lalande	- -	13.3	26.6	50 13.34	3 49.841	− 3 45.98	+ 78.276
	Hebe	43.6	56.1	9.2	22 11 56.13	1 31.046		
	(* 14) W.	59.4	12.5	25.8	12 12.43	2 24.739	0 16.30	+ 23.872
	35468, Lalande	29.2	42.2	55.2	15 41.20	3 48.472	− 3 45.07	+ 77.541
	Hebe	3.1	16.1	29.1	18 16.10	1 31.134		
	(* 14) W.	19.4	32.6	45.4	18 32.46	2 24.190	− 0 16.36	+ 23.235
	Hebe	45.1	58.1	11.4	19 58.14	1 30.785		
	(* 14) W.	1.3	14.6	27.6	20 14.48	2 24.045	− 0 16.34	+ 23.439
	Hebe	1.0	14.0	26.9	22 13.66	1 30.770		
	(* 14) W.	17.3	30.3	43.3	22 30.30	2 24.069	− 0 16.64	+ 23.478
	Hebe	50.7	3.8	16.8	24 3.76	1 30.888		
	(* 14) W.	7.2	20.2	33.2	24 20.22	2 23.810	− 0 16.46	+ 23.101
	Hebe	39.7	52.8	5.8	25 52.77	1 30.651		
	(* 14) W.	56.1	9.3	22.1	26 9.18	2 23.756	− 0 16.41	+ 23.284
	35468, Lalande	26.0	39.2	51.2	29 38.79	3 47.640	− 3 46.02	+ 77.094
28	Hebe	43.6	56.7	9.7	20 6 56.70	1 47.650		
	35468, Lalande	26.6	39.1	52.0	10 39.23	1 56.050	− 3 42.53	+ 8.400
	Hebe	28.7	41.4	54.4	11 41.48	1 47.712		
	35468, Lalande	10.7	23.8	36.6	15 23.71	1 55.979	− 3 42.23	+ 8.267
	Hebe	- -	30.6	43.9	16 30.83	1 47.739		
	35468, Lalande	0.4	13.3	26.2	20 13.30	1 55.959	− 3 42.47	+ 8.220
	Hebe	1.4	14.2	27.1	21 14.21	1 47.791		
	35468, Lalande	43.2	56.7	9.6	24 56.50	1 55.988	− 3 42.29	+ 8.197

RESULTS.

Aug. 26

m. s.
Corr. Chron. + 0 9.83

	α (h. m. s.)	δ (° ′ ″)
35468, Lalande,	18 53 31.20	−17 3 36.64
(* 14) W.,	18 51 2.57	−16 52 25.88

Hebe—35468, Lalande,

	Δα (m. s.)	Δδ (′ ″)
Sid. T. 22 20 33.26 (h. m. s.)	− 0 16.42	+ 5 59.66
Δρ	+ .04	+ .77
p	+ .26	+ 4.43

Hebe—(* 14) W.,

	Δα (m. s.)	Δδ (′ ″)
Sid. T. 22 8 15.25 (h. m. s.)	− 3 45.69	+19 52.94
Δρ	+ .15	+ 2.61
p	+ .26	+ 4.41

28

m. s.
Corr. Chron. + 0 10.24

	α (h. m. s.)	δ (° ′ ″)
35468, Lalande,	18 53 31.17	−17 3 36.68

Hebe—35468, Lalande,

	Δα (m. s.)	Δδ (′ ″)
Sid. T. 20 14 16.04 (h. m. s.)	− 3 42.38	+ 2 7.12
Δρ	.00	+ .12
p	+ .11	+ 4.79

COMET 1851, I.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.		COMET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.		revs.	m. s.	revs.
1851. Aug. 6	Weisse III, 62	33.1	45.4	57.5	13 38 45.33	2	35.611	+ 0 39.60	— 25.845
	Comet 1851, I.	12.3	25.0	37.5	39 24.93	1	39.945		
	Weisse III, 62	45.5	58.0	10.2	41 57.90	2	35.822	+ 0 39.83	— 25.881
	Comet 1851, I.	26.0	37.2	50.0	42 37.73	1	40.120		
	Weisse III, 62	3.4	15.8	28.2	45 15.80	2	35.921	+ 0 40.43	— 25.468
	Comet 1851, I.	44.0	56.2	8.5	45 56.23	1	40.632		
	Weisse III, 62	31.0	43.0	56.0	48 43.33	2	35.841	+ 0 41.37	— 25.782
	Comet 1851, I.	12.3	24.3	37.5	49 24.70	1	40.238		
	Weisse III, 62	17.2	29.2	41.3	53 29.23	2	35.940	+ 0 41.67	— 25.130
	Comet 1851, I.	58.6	10.9	23.2	54 10.90	1	40.989		
	Weisse III, 62	48.2	1.2	14.0	58 1.13	2	36.021	+ 0 41.93	— 25.580
	Comet 1851, I.	30.5	43.2	55.5	58 43.06	1	40.620		
	Weisse III, 62	13.0	25.0	37.5	14 0 25.16	2	36.090	+ 0 42.37	— 24.979
	Comet 1851, I.	55.6	7.5	19.5	1 7.53	1	41.290		
	Weisse III, 62	14.3	27.0	39.6	4 26.96	2	36.080	+ 0 43.07	— 24.874
	Comet 1851, I.	57.5	10.0	22.6	5 10.03	1	41.385		
	Weisse III, 62	45.0	57.3	9.1	7 57.13	2	36.204	+ 0 43.50	— 24.743
	Comet 1851, I.	28.2	40.7	53.0	8 40.63	1	41.640		
	Weisse III, 62	29.2	42.0	54.7	13 41.96	2	36.472	+ 0 44.20	— 25.076
	Comet 1851, I.	14.0	26.0	38.5	14 26.16	1	41.575		
	Weisse III, 62	59.4	12.2	24.1	18 11.90	2	36.540	+ 0 44.67	— 24.648
	Comet 1851, I.	44.0	56.5	9.2	18 56.57	1	42.071		
	Weisse III, 62	43.0	53.2	8.0	20 54.73	2	36.374	+ 0 45.64	— 24.703
	Comet 1851, I.	28.2	40.0	52.9	21 40.37	1	41.850		
	Weisse III, 62	25.2	37.3	50.0	40 37.50	2	36.723	+ 0 47.16	— 24.363
	Comet 1851, I.	12.0	25.0	37.0	41 24.66	1	42.539		
13	Weisse III, 428	54.0	6.0	19.0	13 46 6.33	1	39.698	+ 0 18.10	— 24.870
	Comet 1851, I.	. .	24.5	37.0	46 24.43	2	34.389		
	Weisse III, 428	42.0	54.0	. .	55 53.93	1	40.040	+ 0 20.00	— 24.969
	Comet 1851, I.	. .	14.0	26.0	56 13.93	2	34.830		
	Weisse III, 428	57.2	9.2	. .	58 9.13	1	39.980	+ 0 19.30	— 25.614
	Comet 1851, I.	. .	28.5	41.0	58 28.43	2	35.415		
	Weisse III, 428	18.2	31.0	. .	14 1 30.93	1	40.078	+ 0 20.00	— 25.479
	Comet 1851, I.	. .	51.0	13 0	1 50.93	2	35.378		
	Weisse III, 428	41.0	54.2	. .	4 54.13	1	40.241	+ 0 21.00	— 25.333
	Comet 1851, I.	. .	15.2	28.0	5 15.13	2	35.395		
	Weisse III, 428	9.2	22.0	. .	8 21.93	1	40.219	+ 0 20.30	— 25.578
	Comet 1851, I.	29.0	42.3	54.2	8 42.23	2	35.618		
28	Comet 1851, I.	. .	6.0	17.5	13 41 5.95	2	48.970		
	Weisse III, 1130	. .	29.5	42.0	43 29.45	1	57.498	— 2 23.50	— 21.651
	Comet 1851, I.	13.0	26.0	38.2	46 25.73	2	48.860		
	Weisse III, 1130	37.2	49.2	1.3	48 49.23	1	57.441	— 2 23.50	— 21.598
	Comet 1851, I.	36.2	48.2	0.2	51 48.20	2	50.015		
	Weisse III, 1130	. .	11.2	23.7	54 11.15	1	57.492	— 2 22.95	— 22.702
	Comet 1851, I.	15.3	28.1	41.0	55 28.13	2	50.061		
	Weisse III, 1130	38.0	50.3	3.0	57 50.43	1	57.645	— 2 22.30	— 22.595

RESULTS.

Corr. Chron. (m. s.) + 0 3.08

	α (h. m. s.)	δ (° ′ ″)
Weisse III, 62,	3 3 36.87	+ 8 6 30.43

Comet—Weisse III, 62,

		Δα (m. s.)	Δδ (′ ″)
M. T.	14 3 15.66	+ 0 42.73	— 6 26.68
	Δt +	.12	
	Δϱ +	.01	— .26
	p —	.44	+ 5.49

Corr. Chron. (m. s.) — 0 13.20

	α (h. m. s.)	δ (° ′ ″)
Weisse III, 428,	3 24 7.08	+ 7 3 29.75

Comet—Weisse III, 428,

		Δα (m. s.)	Δδ (′ ″)
M. T.	13 59 15.98	+ 0 19.78	— 6 28.96
	Δt +	.05	
	Δϱ +	.01	— .27
	p —	.43	+ 5.47

Corr. Chron. (m. s.) — 0 50.89

	α (h. m. s.)	δ (° ′ ″)
Weisse III, 1130,	3 58 2.89	+ 4 3 57.86

Comet—Weisse III, 1130,

		Δα (m. s.)	Δδ (′ ″)
M. T.	13 47 51.11	— 2 23.06	— 5 40.24
	Δt —	.39	
	Δϱ	.00	— .18
	p —	.36	+ 5.03

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 12	Iris	54.0	- -	18.0	11 39 6.50	3 43.548		
	Weisse O, 233	- -	28.0	40.2	39 28.11	1 25.859	— 0 21.61	— 77.804
	Iris	10.0	22.0	- -	46 22.11	3 43.562		
	Weisse O, 233	31.5	44.0	57.1	46 44.20	1 25.978	— 0 22.09	— 77.699
	Iris	36.5	48.0	- -	50 48.11	3 43.512		
	Weisse O, 233	57.5	10.2	23.0	51 10.03	1 26.033	— 0 21.92	— 77.594
13	Iris	58.6	11.1	23.6	20 28 11.08	3 36.691		
	Weisse O, 233	14.9	27.1	39.9	28 27.30	1 38.930	— 0 16.22	— 57.876
	Iris	4.4	16.8	29.3	30 16.82	3 36.541		
	Weisse O, 233	20.2	32.6	45.5	30 32.79	1 38.818	— 0 15.97	— 57.838
	Iris	3.7	16.1	28.6	32 16.15	3 36.625		
	Weisse O, 233	19.9	32.3	45.1	32 32.42	1 38.893	— 0 16.27	— 57.847
	Iris	55.6	8.0	20.5	34 8.05	3 36.610		
	Weisse O, 233	11.5	24.1	36.7	34 24.09	1 38.862	— 0 16.04	— 57.863
	Iris	1.1	13.6	26.3	37 13.69	3 36.550		
	Weisse O, 233	- -	30.9	42.4	37 30.85	1 39.001	— 0 17.16	— 57.664
	Iris	16.5	28.8	41.1	39 28.82	3 36.542		
	Weisse O, 233	32.3	44.9	57.5	39 44.87	1 38.898	— 0 16.05	— 57.759
	Iris	11.4	24.1	36.2	41 23.90	3 36.616		
	Weisse O, 233	28.0	39.7	52.4	41 40.05	1 38.982	— 0 16.15	— 57.749
	Iris	1.7	14.1	27.0	43 14.24	3 36.498		
	Weisse O, 233	17.8	30.4	43.0	43 30.36	1 38.880	— 0 16.12	— 57.733
	Iris	46.5	59.1	11.6	44 59.07	3 36.505		
	Weisse O, 233	2.6	15.2	26.7	45 14.84	1 38.991	— 0 15.77	— 57.629
	Iris	28.8	41.3	54.0	47 41 35	3 36.391		
	Weisse O, 233	45.1	57.4	10.1	47 57.53	1 38.972	— 0 16.18	— 57.534
	Iris	17.4	30.0	42.5	49 29.95	3 36.425		
	Weisse O, 233	33.5	46.1	58.7	49 46.11	1 39.009	— 0 16.16	— 57.531
	Iris	59.5	11.9	24.4	51 11.93	3 36.581		
	Weisse O, 233	15.3	27.2	40.6	51 27.67	1 39.091	— 0 15.74	— 57.605
	Iris	8.5	20.9	33.7	54 21.01	3 36.464		
	Weisse O, 233	24.7	37.2	49.8	54 37.22	1 39.198	— 0 16.21	— 57.381
	Iris	46.0	58.9	11.4	55 58.76	3 36.410		
	Weisse O, 233	2.1	14.7	27.6	56 14.79	1 39.239	— 0 16.03	— 57.286
16	Weisse O, 229	15.0	27.7	40.6	20 54 27.78	2 9.090	+ 0 4.08	— 14.739
	Iris	19.1	31.8	44.6	54 31.86	2 23.829		
	Weisse O, 233	26.9	39.7	- -	54 39.75	2 22.651	— 0 7.89	— 1.174
	Weisse O, 229	- -	50.0	2.6	56 50.01	2 9.001	+ 0 4.10	— 14.637
	Iris	- -	54.1	6.7	56 54.11	2 23.638		
	Weisse O, 233	49.3	1.9	- -	57 1.91	2 22.742	— 0 7.80	— 0.896
	Weisse O, 229	43.5	56.4	8.8	20 59 56.26	2 9.062	+ 0 3.90	— 14.581
	Iris	47.5	0.0	13.0	21 0 0.16	2 23.643		
	Weisse O, 233	55.5	8.2	- -	0 8.18	2 22.780	— 0 8.02	— 0.863
	Weisse O, 229	53.1	6.0	18.2	2 5.78	2 8.950	+ 0 3.91	— 14.692
	Iris	57.0	9.7	22.4	2 9.69	2 23.642		
	Weisse O, 233	5.1	17.5	- -	2 17.49	2 22.555	— 0 7.80	— 1.087

RESULTS.

Corr. Chron. — 0 10.59 (m. s.)

	α	δ
Weisse O, 233,	0 h 13 m 32.91 s	+11° 53′ 20.79″

Iris—Weisse O, 233,

		Δα	Δδ
M. T.	11 h 45 m 14.98 s	— 0 m 21.87 s	—19′ 54.20″
	Δt	.06	
	Δϱ	+ .01	— .53
	p	— .28	+ 3.63

Corr. Chron. + 0 7.43 (m. s.)

	α	δ
Weisse O, 233,	0 h 13 m 32.93 s	+11° 53′ 20.97″

Iris—Weisse O, 233,

		Δα	Δδ
Sid. T.	20 h 42 m 19.92 s	— 0 m 16.15 s	—14′ 46.27″
	Δϱ	+ .01	— .44
	ν	30	+ 3.77

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 16	Weisse O, 229	56.8	9.4	21.9	21 4 9.36	2 8.962	+ 0 3.87	— 14.579
	Iris	0.6	13.2	25.9	4 13.23	2 23.541		
	Weisse O, 233	8.7	21.2	33.9	4 21.26	2 22.702	— 0 8.03	— 0.839
	Weisse O, 229	9.9	23.0	35.4	6 22.75	2 8.978	+ 0 3.76	— 14.512
	Iris	13.8	26.5	39.3	6 26.51	2 23.490		
	Weisse O, 233	22.0	34.6	. .	6 34.65	2 22.713	— 0 8.14	— 0.777
	Weisse O, 229	1.8	14.4	27.3	8 14.47	2 8.919	+ 0 4.01	— 14.559
	Iris	5.8	18.5	31.2	8 18.48	2 23.478		
	Weisse O, 233	13.7	26.6	. .	8 26.61	2 22.639	— 0 8.13	— 0.839
	Weisse O, 229	47.6	0.3	12.9	10 0.60	2 8.989	+ 0 3.57	— 14.480
	Iris	51.5	4.3	16.8	10 4.17	2 23.469		
	Weisse O, 233	59.6	12.2	. .	10 12.19	2 22.731	— 0 8.02	— 0.738
	Weisse O, 229	26.1	39.0	51.5	11 38.88	2 8.902	+ 0 3.93	— 14.598
	Iris	30.2	42.8	55.5	11 42.81	2 23.500		
	Weisse O, 233	38.2	50.7	. .	11 50.75	2 22.646	— 0 7.94	— 0.854
	Weisse O, 229	15.1	28.0	40.6	13 27.90	2 8.969	+ 0 4.06	— 14.400
	Iris	19.2	32.1	44.6	13 31.96	2 23.369		
	Weisse O, 233	27.3	40.0	. .	13 40.01	2 22.692	— 0 8.05	— 0.677
27	Iris	30.2	42.7	55.0	11 58 42.63	2 50.844		
	Weisse O, 202	12.6	24.6	37.1	59 24.76	1 57.589	— 0 42.13	— 23.434
	Iris	57.0	10.0	22.5	12 0 9.71	2 51.041		
	Weisse O, 202	39.2	51.0	4.2	0 51.46	1 57.571	— 0 41.75	— 23.649
	Iris	41.0	53.6	6.5	2 53.70	2 50.902		
	Weisse O, 202	23.2	36.2	48.3	3 35.90	1 57.545	— 0 42.20	— 23.536
	Iris	54.2	6.2	19.2	5 6.53	2 50.962		
	Weisse O, 202	36.2	49.1	1.2	5 48.83	1 57.605	— 0 42.30	— 23.536
	Iris	42.0	54.3	7.0	6 54.43	2 50.931		
	Weisse O, 202	24.1	37.2	49.2	7 36.83	1 57.569	— 0 42.40	— 23.541
	Iris	20.3	33.2	46.2	8 33.23	2 50.898		
	Weisse O, 202	3.0	15.5	28.1	9 15.53	1 57.560	— 0 42.30	— 23.517
	Iris	49.0	2.0	. .	12 2.01	2 50.952		
	Weisse O, 202	32.5	44.2	57.2	12 44.63	1 57.623	— 0 42.62	— 23.508
	Iris	34.0	46.0	59.0	14 46.33	2 50.845		
	Weisse O, 202	16.2	29.0	41.0	15 28.73	1 57.640	— 0 42.40	— 23.384
	Iris	35.1	47.3	0.0	17 47.46	2 50.880		
	Weisse O, 202	15.0	30.0	43.0	18 30.01	1 57.538	— 0 42.55	— 23.521
28	Iris	33.5	46.0	58.7	20 45 46.08	2 41.961		
	Weisse O, 202	35.3	48.0	0.8	46 48.04	1 54.455	— 1 1.96	— 17.685
	Iris	11.3	23.8	36.5	47 23.84	2 42.015		
	Weisse O, 202	13.0	25.6	38.1	48 25.58	1 54.490	— 1 1.74	— 17.704
	Iris	13.1	25.7	. .	49 25.75	2 42.052		
	Weisse O, 202	15.2	27.9	.	50 27.94	1 54.410	— 1 2.19	— 17.821
	Iris	15.9	28.1	41.0	51 28.34	2 41.949		
	Weisse O, 202	. .	30.2	43.3	52 30.33	1 54.520	— 1 1.99	— 17.608
	Iris	20.4	33.0	46.5	53 33.30	2 41.983		
	Weisse O, 202	. .	35.1	. .	54 35.19	1 54.398	— 1 1.89	— 17.764
	Iris	11.5	23.9	36.7	55 24.03	2 41.967		
	Weisse O, 202	13.6	26.1	39.6	56 26.41	1 54.413	— 1 2.38	— 17.733

RESULTS.

Corr. Chron. + 0 m. 8.00 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 229,	0 13 17.70	+11 56 50.18
Weisse O, 233,	0 13 32.97	+11 53 21.53

Iris—Weisse O, 229,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	21 4 55.30	+ 0 3.92	— 3 44.06
	Δϱ	.00	— .10
	p	— .29	+ 3.75

Iris—Weisse O, 233,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	21 4 55.30	— 0 7.98	— 0 13.43
	Δϱ	.00	— .01
	p	— .29	+ 3.75

Corr. Chron. — 0 m. 44.44 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 202,	0 12 13.95	+12 34 8.81

Iris—Weisse O, 202,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	12 6 41.79	— 0 42.29	— 6 1.40
	Δt	— .12	
	Δϱ	.00	— .13
	p	— .19	+ 3.73

Corr. Chron. + 0 m. 10.24 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 202,	0 12 13.96	+12 34 8.98

Iris—Weisse O, 202,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	20 52 49.58	— 1 1.99	— 4 31.86
	Δϱ	.00	— .12
	p	— .33	+ 4.08

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 28	Iris	22.8	35.1	47.7	20 57 35.20	2 41.891		
	Weisse O, 202	24.5	37.1	50.0	58 37.21	1 54.488	— 1 2.01	— 17.582
	Iris			50.8	21 0 38.17	2 42.021		
	Weisse O, 202	27.3	39.9	52.8	1 39.94	1 54.595	— 1 1.77	— 17.605
Sep. 15	Iris	0.7	13.1	26.1	23 7 13.32	2 31.431		
	Weisse XXIII, 1269	52.2	5.0	17.4	8 4.87	3 44.705	— 0 51.55	+ 43.210
	Weisse O, 4	5.0	17.5	30.6	8 17.69	3 43.439	— 1 4.37	+ 41.944
	Iris	32.5	45.3	58.0	9 45.28	2 31.392		
	Weisse XXIII, 1269	24.0	37.0	49.7	10 36.88	3 44.580	— 0 51.60	+ 43.124
	Weisse O, 4	37.0	49.7	2.5	10 49.74	3 43.602	— 1 4.46	+ 42.146
	Iris	59.6	12.0	24.8	12 12.13	2 31.444		
	Weisse XXIII, 1269	51.0	3.7	16.4	13 3.67	3 44.692	— 0 51.54	+ 43.184
	Weisse O, 4	3.7	16.4	29.5	13 16.51	3 43.441	— 1 4.38	+ 41.933
	Iris	29.8	42.6	55.4	14 42.61	2 31.469		
	Weisse XXIII, 1269	21.7	34.6	47.1	15 34.46	3 44.795	— 0 51.85	+ 43.262
	Weisse O, 4	34.6	47.1	0.1	15 47.26			
16	Iris	41.0	53.5	5.5	21 42 53.32	1 44.442		
	Weisse XXIII, 1269	16.3	29.0	41.7	44 28.99	2 43.569	— 1 35.67	+ 29.306
	Weisse O, 4	29.6	41.7	54.6	44 41.61	2 42.249	— 1 48.29	+ 27.986
	Iris	12.3	25.6	39.2	46 25.70	1 44.529		
	Weisse XXIII, 1269	48.3	1.1	14.0	48 1.14	2 43.690	— 1 35.44	+ 29.340
	Weisse O, 4	1.1	14.0	26.7	48 13.91	2 42.567	— 1 48.21	+ 28.217
	Iris	49.7	2.4	15.3	49 2.38	1 44.639		
	Weisse XXIII, 1269	25.8	38.3	51.4	50 38.50	2 43.755	— 1 36.12	+ 29.295
	Weisse O, 4	38.3	51.4	4.0	50 51.23	2 42.499	— 1 48.85	+ 28.039
	Iris	37.3	50.0	2.8	51 50.03	1 44.620		
	Weisse XXIII, 1269	13.6	26.0	38.9	53 26.15	2 43.739	— 1 36.12	+ 29.298
	Weisse O, 4	26.0	38.9	51.8	53 38.88	2 42.644	— 1 48.85	+ 28.203
	Iris	37.1	49.9	2.9	56 49.95	1 44.919		
	Weisse XXIII, 1269	13.2	25.8	39.0	58 26.01	2 44.019	— 1 36.06	+ 29.279
	Weisse O, 4	25.9	39.0	51.7	58 38.83	2 42.502	— 1 48.88	+ 27.762
	Iris	12.6	25.3	38.0	22 1 25.29	1 45.539		
	Weisse XXIII, 1269	50.0	2.7	15.5	3 2.71	2 44.259	— 1 37.42	+ 28.899
	Weisse O, 4	2.7	15.5	. .	3 15.43	2 43.002	— 1 50.14	+ 27.642
	Iris	5.4	18.0	30.8	4 18.07	1 45.329		
	Weisse XXIII, 1269	41.7	54.3	7.3	5 54.43	2 44.220	— 1 36.36	+ 29.070
	Weisse O, 4	54.3	7.3	20.0	6 7.19	2 42.879	— 1 49.12	+ 27.729
	Iris	36.9	49.4	2.8	6 49.68	1 45.328		
	Weisse XXIII, 1269	13.6	26.4	39.2	8 26.37	2 44.100	— 1 36.69	+ 28.951
	Weisse O, 4	26.4	39.2	52.1	8 39.20	2 42.910	— 1 49.52	+ 27.761
20	Iris	49.2	2.0	15.0	11 0 2.06	3 34.331		
	Weisse XXIII, 1201	44.0	56.2	9.0	1 56.06	1 37.482	— 1 54.00	— 56.964
	Weisse XXIII, 1212	. .	29.0	41.7	2 28.81	1 47.541	— 2 26.75	— 46.905
	Iris	2.2	15.2	28.0	4 15.20	3 34.231		
	Weisse XXIII, 1201	56.7	10.2	23.0	6 9.96	1 37.280	— 1 54.76	— 57.066
	Weisse XXIII, 1212	29.6	42.0	54.8	6 42.13	1 37.512	— 2 26.93	— 46.834
	Iris	56.2	9.2	21.3	8 8.90	3 34.421		
	Weisse XXIII, 1201	51.0	4.0	17.1	10 4.03	1 37.329	— 1 55.13	— 57.207
	Weisse XXIII, 1212	23.6	36.0	49.0	10 36.20	1 47.854	— 2 27.30	— 46.682

RESULTS.

Corr. Chron. + 0 m. 18.49 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1269,	0 1 19.81	+11 58 49.54
Weisse O, 4,	0 1 32.69	+11 59 11.37

Iris—Weisse XXIII, 1269,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 23 11 16.83		— 0 51.64	+11 3.89
	Δρ	— .00	+ .24
	p	— .10	+ 4.09

Iris—Weisse O, 4,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 23 10 2.07		— 1 4.40	+10 45.65
	Δρ	.00	+ .23
	p	— .10	+ 4.09

Corr. Chron. + 0 m. 18.71 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1269,	0 1 19.82	+11 58 49.65
Weisse O, 4,	0 1 32.70	+11 59 11 48

Iris—Weisse XXIII, 1269,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 21 55 15.51		— 1 36.24	+ 7 28.47
	Δρ	.00	+ .17
	p	— .25	+ 4.27

Iris—Weisse O, 4,

		Δa (m. s.)	Δδ (′ ″)
Sid. T. 21 55 15.51		— 1 48.98	+ 7 9.07
	Δρ	.00	+ .16
	p	— .25	+ 4.32

Corr. Chron. + 0 m. 20.30 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1201,	23 58 55.78	+12 2 57.60
Weisse XXIII, 1212,	23 59 15.99	+12 0 20.75

Iris—Weisse XXIII, 1201,

		Δa (m. s.)	Δδ (′ ″)
M. T. 11 6 34.52		— 1 54.73	—14 37.87
	Δt	— .31	
	Δρ	.00	— .31
	p	— .11	+ 4.18

Iris—Weisse XXIII, 1212,

		Δa (m. s.)	Δδ (′ ″)
M. T. 11 6 34.52		— 2 27.10	—12 0.47
	Δt	— .40	
	Δρ	.00	— .26
	p	— .11	+ 4.18

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Sept. 20	Iris - - - - -	18.1	31.0	43.0	11 12 30.70	3 34.441		
	Weisse XXIII, 1201	13.0	26.0	38.2	14 25.73	1 37.326	— 1 55.03	— 57.230
	Weisse XXIII, 1212	45.2	58.2	11.0	14 58.13	1 47.470	— 2 27.43	— 47.086
Oct. 1	Iris - - - - -	36.6	49.4	- -	22 49 49.33	2 35.771		
	Weisse XXIII, 1030	21.2	33.6	46.4	52 33.74	2 44.072	— 2 44.41	+ 8.301
	Iris - - - - -	51.5	4.2	16.6	54 4.11	2 36.025		
	Weisse XXIII, 1030	36.4	48.9	1.4	56 48.87	2 44.050	— 2 44.76	+ 8.025
	Iris - - - - -	- -	- -	55.2	57 42.59	2 35.902		
	Weisse XXIII, 1030	- -	27.4	40.1	23 0 27.40	2 43.971	— 2 44.81	+ 8.069
	Iris - - - - -	24.4	36.6	- -	1 36.86	2 36.095		
	Weisse XXIII, 1030	8.6	21.5	34.2	4 21.44	2 44.000	— 2 44.58	+ 7.905
	Iris - - - - -	- -	10.6	23.5	8 10.60	2 36.095		
	Weisse XXIII, 1030	43.3	- -	8.4	10 55.81	2 44.101	— 2 45.21	+ 8.006
	Iris - - - - -	45 5	57.8	- -	11 58.14	2 36.290		
	Weisse XXIII, 1030	30.5	43.4	56.4	14 43.40	2 44.029	— 2 45.26	+ 7.739
6	Iris - - - - -	41.2	53.7	6.4	22 6 53.77	2 34.862		
	8300, B.A.C. - - -	59.8	12.2	25.9	8 12.62	2 24.800	— 1 18.85	— 10.062
	Iris - - - - -	0.6	- -	25.5	9 13.04	2 34.921		
	8300, B.A.C. - - -	- .	31.7	44.3	10 31.77	2 24.958	— 1 18.73	— 9.963
	Iris - - - - -	14.9	27.2	- -	11 27.37	2 34.942		
	8300, B.A.C. - - -	33.6	46.1	58.9	12 46.19	2 24.952	— 1 18.82	— 9.990
	Iris - - - - -	36.5	48.9	1.6	13 48.98	2 35.089		
	8300, B.A.C. - - -	55.2	7.8	20.5	15 7.82	2 24.919	— 1 18.84	— 10.170
	Iris - - - - -	49.6	- -	14.5	16 2.03	2 35.210		
	8300, B.A.C. - - -	8.5	- -	33.6	17 21.04	2 24.869	— 1 19.01	— 10.341
	Iris - - - - -	11.7	24.2	36.9	18 24.27	2 35.208		
	8300, B.A.C. - - -	30.7	43.4	55.8	19 43.28	2 24.859	— 1 19.01	— 10.349
	Iris - - - - -	- -	34.9	47.4	24 34.90	2 35.169		
	8300, B.A.C. - - -	- -	53.9	6.4	25 53.88	2 24.808	— 1 18.98	— 10.361
	Iris - - - - -	59.8	12.3	24.8	26 12.18	2 35.289		
	8300, B.A.C. - - -	19.4	31.7	44.7	28 31.90	2 24.771	— 1 19.72	— 10.518
	Iris - - - - -	40.8	53.4	6.0	30 53.36	2 35.439		
	8300, B.A.C. - - -	-	12.4	25.1	32 12.49	2 24.841	— 1 19.13	— 10.598
	Iris - - - - -	32.2	44.8	57.4	35 44.80	2 35.500		
	8300, B.A.C. - - -	51.8	4.2	16.8	37 4.23	2 24.732	— 1 19.43	— 10.768
	Iris - - - - -	45.9	58.3	10.9	37 58.35	2 35.472		
	8300, B.A.C. - - -	5.3	17.9	30.4	39 17.89	2 24.762	— 1 19.54	— 10.710
7	Iris - - - - -	30.5	- -	55.9	2 3 43.20	3 28.542		
	8300, B.A.C. - - -	30.2	- -	55.8	5 42.99	2 19.171	— 1 59.79	— 39.307
	Iris - - - - -	33.3	45.8	58.3	6 45.80	3 28.560		
	8300, B.A.C. - - -	- -	45.4	58.3	8 45.60	2 19.079	— 1 59.80	— 39.417
	Iris - - - - -	- -	34.9	47.3	9 34.82	3 28.648		
	8300, B.A.C.	22.1	34.9	47.3	11 34.75	2 19.065	— 1 59.93	— 39.519
	Iris - - - - -	57.7	- -	22.6	12 10.15	3 28.652		
	8300, B.A.C. - -	57.4	- -	22.5	14 9.97	2 19.042	— 1 59.82	— 39.546

RESULTS.

Corr. Chron. + 0 m. 29.12 s.

	α	δ
Weisse XXIII, 1030,	23 h. 50 m. 11.66 s.	+10° 38′ 59.67″

Iris—Weisse XXIII, 1030,

		△α	△δ
Sid. T. 23 h. 1 m. 2.72 s.		— 2 m. 44.84 s.	+ 2′ 3.06″
	Δρ	.00	+ .04
	p —	.10	+ 4.60

Corr. Chron. + 0 m. 30.46 s.

	α	δ
8300, B.A.C.,	23 h. 45 m. 3.80 s.	+10° 7′ 23.39″

Iris—8300, B.A.C.,

		△α	△δ
Sid. T. 22 h. 21 m. 31.65 s.		— 1 m. 19.10 s.	— 2′ 39.04″
	Δρ	.00	— .06
	p —	.17	+ 4.53

Corr. Chron. + 0 m. 30.69 s.

	α	δ
8300, B.A.C.,	23 h. 45 m. 3.80 s.	+10° 7′ 23.45″

Iris—8300, B.A.C.,

		△α	△δ
Sid. T. 22 h. 11 m. 25.17 s.		— 2 m. 0.00 s.	—10′ 7.31″
	Δρ	.00	— 23
	p —	.19	+ 4.56

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 7	Iris	55.5		20.6	22 15 8.05	3 28.779		
	8300, B.A.C.		8.3		17 8.25	2 19.085	— 2 0.20	— 39.630
	Iris	52.2	4.8	17.6	18 4.85	3 28.780		
	8800, B.A.C.	52.8	5.4	17.9	20 5.34	2 19.048	— 2 0.49	— 39.668
13	Iris	36.2	48.5	1.0	10 19 48.57	3 31.576		
	Weisse XXIII, 828	48.0	0.0		21 0.22	2 28.269	— 1 11.65	— 33.243
	Weisse XXIII, 829	48.1	0.3		21 0.42	2 27.981	— 1 11.85	— 33.531
	Iris	34.6	47.1	59.7	22 47.13	3 31.637		
	Weisse XXIII, 828	46.0	59.0	11.0	23 58.67	2 28.169	— 1 11.54	— 33.404
	Weisse XXIII, 829	46.2	59.3	11.1	23 58.87	2 28.050	— 1 11.74	— 33.523
	Iris	48.3	0.3	13.6	26 0.73	3 31.781		
	Weisse XXIII, 828	0.0	12.0	24.3	27 12.10	2 28.175	— 1 11.37	— 33.542
	Weisse XXIII, 829	0.2	12.3	24.6	27 12.37	2 28.011	— 1 11.64	— 33.706
	Iris	24.3	37.1	49.3	28 36.90	3 31.772		
	Weisse XXIII, 828	36.0	48.0	1.2	29 48.40	2 28.235	— 1 11.50	— 33.473
	Weisse XXIII, 829	36.2	48.2	1.4	29 48.60	2 28.050	— 1 11.70	— 33.658
	Iris	9.2	21.3	33.8	31 21.43	3 31.749		
	Weisse XXIII, 828	20.8	33.0	45.0	32 32.93	2 28.195	— 1 11.50	— 33.490
	Weisse XXIII, 829	21.0	33.2	45.5	32 33.23	2 28.039	— 1 11.80	— 33.646
	Iris	40.3	52.7	5.5	33 52.83	3 31.901		
	Weisse XXIII, 828	51.0	3.7	16.0	35 3.90	2 28.201	— 1 11.07	— 33.636
	Weisse XXIII, 829	51.5	3.9	16.3	35 4.23	2 28.111	— 1 11.40	— 33.726
23	Iris	56.2	9.0	21.2	9 46 8.80	3 29.215		
	Weisse XXIII, 749	54.0	6.0	18.0	47 6.00	1 52.710	— 0 57.20	— 36.620
	Iris	43.0	55.0	8.0	48 55.33	3 29.191		
	Weisse XXIII, 749	41.2	53.2	5.0	49 53.07	2 22.451	— 0 57.74	— 36.676
	Iris	54.1	6.3	19.0	51 6.47	3 29.161		
	Weisse XXIII, 749	52.0	4.0	17.3	52 4.43	2 22.469	— 0 57.96	— 36.628
	Iris	15.0	27.2	40.1	53 27.43	3 29.235		
	Weisse XXIII, 749	13.2		37.6	54 25.40	2 22.463	— 0 57.97	— 36.708
	Iris	48.1	0.3	12.3	57 0.23	3 29.561		
	Weisse XXIII, 749	45.0	58.0	10.5	57 57.83	2 22.831	— 0 57.60	— 36.666
	Iris	51.2	3.7	16.0	59 3.63	3 29.581		
	Weisse XXIII, 749	49.0	1.0	14.2	10 0 1.40	2 22.790	— 0 57.77	— 36.727
27	Weisse XXIII, 705	27.3	39.5	52.3	9 4 39.70	2 40.620	+ 0 55.63	+ 35.579
	Iris	22.7	35.2	48.1	5 35.33	1 35.220		
	Weisse XXIII, 705	11.2	23.4	35.5	8 23.37	2 40.370	+ 0 55.63	+ 35.035
	Iris	6.5	19.2	31.3	9 19.00	1 35.514		
	Weisse XXIII, 705	58.2	10.3	23.0	11 10.50	2 40.573	+ 0 55.33	+ 35.247
	Iris	53.3	6.0	18.2	12 5.83	1 35.505		
	Weisse XXIII, 705	39.5	52.0	4.1	13 51.87	2 40.522	+ 0 55.26	+ 35.212
	Iris	34.8	47.1	59.5	14 47.13	1 35.489		
	Weisse XXIII, 705	11.2	23.4	36.0	17 23.53	2 40.507	+ 0 55.20	+ 35.173
	Iris	6.3	18.6	31.3	18 18.73	1 35.507		
	Weisse XXIII, 705	47.8	59.7	12.3	19 59.93	2 40.452	+ 0 55.82	+ 35.052
	Iris	43.0	53.7	8.5	20 55.75	1 35.579		

RESULTS.

Corr. Chron. — 0 m. s. 47.12

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 828,	23 40 33.69	+ 9 19 29.84
Weisse XXIII, 829,	23 40 35.07	+ 9 19 31.49

Iris—Weisse XXIII, 828,

		△a (m. s.)	△δ (′ ″)
M. T.	10 26 17.48	— 1 11.44	— 8 34.34
	Δt	— .19	
	Δϱ	.00	— .19
	p	+ .03	+ 4.51

Iris—Weisse XXIII, 829,

		a△ (m. s.)	δ△ (′ ″)
M. T.	10 26 17.48	— 1 11.69	— 8 36.93
	Δt	— .19	
	Δϱ	.00	— .19
	p	+ .03	+ 4.51

Corr. Chron. + 0 m. s. 35.42

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 749,	23 36 34.01	+ 8 7 16.42

Iris—Weisse XXIII, 749,

		△a (m. s.)	△δ (′ ″)
M. T.	9 53 12.40	— 0 57.71	— 9 23.62
	Δt	— .16	
	Δϱ	.00	— .21
	p	+ .05	+ 4.52

Corr. Chron. + 0 m. s. 19.87

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 705,	23 34 8.29	+ 7 22 59.69

Iris—Weisse XXIII, 705,

		a△ (m. s.)	δ△ (′ ″)
M. T.	9 13 50.17	+ 0 55.48	+ 9 1.26
	Δt	+ .15	
	Δϱ	.00	+ .21
	p	+ .01	+ 4.52

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Oct. 31	Weisse XXIII, 685	43.0	55.1	7.6	8 47 55.23	1 44.519	+ 1 56.67	+ 6.354
	Iris	39.1	52.0	4.6	49 51.90	1 38.165		
	Weisse XXIII, 685	56.1	8.3	21.0	51 8.43	1 44.536	+ 1 56.97	+ 6.284
	Iris	53.2	5.0	18.0	53 5.40	1 38.252		
	Weisse XXIII, 685	5.6	18.1	30.5	55 18.07	1 44.526	+ 1 56.90	+ 6.148
	Iris	2.4	15.2	27.3	57 14.97	1 38.378		
	Weisse XXIII, 685	6.1	18.5	31.0	58 18.53	1 44.539	+ 1 56.74	+ 6.145
	Iris	2.7	15.4	27.7	9 0 15.27	1 38.394		
	Weisse XXIII, 685	47.5	0.2	12.6	1 0.10	1 44.571	+ 1 57.17	+ 6.202
	Iris	45.1	57.2	9.5	2 57.27	1 38.369		
	Weisse XXIII, 685	31.0	43.7	53.2	3 43.30	1 44.568	+ 1 57.13	+ 6.149
	Iris	28.0	40.3	53.0	5 40.43	1 38.419		
Nov. 1	Weisse XXIII, 685	42.1	54.1	7.0	8 22 54.40	2 47.638	+ 2 3.93	+ 14.198
	Iris	46.0	58.0	11.0	24 58.33	3 31.900		
	Weisse XXIII, 685	59.2	11.7	24.0	28 11.63	2 47.618	+ 2 3.30	+ 14.208
	Iris	2.7	15.0	27.1	30 14.93	3 31.890		
	Weisse XXIII, 685	9.1	20.9	34.0	31 21.43	2 47.630	+ 2 3.17	+ 14.240
	Iris	12.0	24.6	37.2	33 24.60	3 31.934		
	Weisse XXIII, 685	48.0	0.0	12.8	36 0.27	2 47.640	+ 2 3.30	+ 14.376
	Iris	. .	3.4	16.0	38 3.57	3 32.080		
7	Weisse XXIII, 710	0.2	12.5	24.6	8 47 12.43	2 47.171	+ 2 13.57	+ 38.789
	Iris	13.5	26.0	38.5	49 26.00	1 38.561		
	Weisse XXIII, 710	8.5	19.7	32.5	52 20.23	2 47.140	+ 2 13.14	+ 38.614
	Iris	21.0	33.1	46.0	54 33.37	1 38.705		
	Weisse XXIII, 710	12.5	24.2	37.0	55 24.57	2 47.141	+ 2 13.60	+ 38.598
	Weisse XXIII, 764	11.2	24.0	36.0	57 23.73	2 47.580	+ 0 14.44	+ 39.037
	Iris	26.0	38.5	50.0	57 38.17	1 38.722		
	Weisse XXIII, 710	54.1	6.4	18.5	9 0 6.33	2 47.143	+ 2 13.00	+ 38.580
	Weisse XXIII, 764	53.0	5.0	. .	2 5.08	2 47.465	+ 0 14.25	+ 38.902
	Iris	7.5	19.0	. .	2 19.33	1 38.742		
	Weisse XXIII, 710	59.2	11.0	23.5	4 11.23	2 47.242	+ 2 13.50	+ 38.436
	Weisse XXIII, 764	58.0	10.0	. .	6 10.13	2 47.695	+ 0 14.60	+ 38.889
	Iris	. .	24.5	37.0	6 24.73	1 38.985		
	Weisse XXIII, 710	33.2	45.5	57.5	7 45.40	2 47.229	+ 2 13.43	+ 38.473
	Weisse XXIII, 764	32.0	44.0	56.5	9 44.17	2 47.679	+ 0 14.66	+ 38.923
	Iris	46.5	59.0	11.0	9 58.83	1 38.935		
11	Weisse XXIII, 764	21.3	34.1	46.0	8 12 33.80	2 35.821	+ 1 1.60	— 1.630
	Iris	23.0	35.2	48.0	13 35.40	2 37.451		
	Weisse XXIII, 764	21.2	33.6	46.4	15 33.40	2 35.833	+ 1 1.81	— 1.536
	Iris	22.8	35.3	47.5	16 35.20	2 37.369		
	Weisse XXIII, 764	41.5	53.6	6.5	17 53.87	2 35.775	+ 1 1.23	— 1.598
	Iris	42.6	55.2	7.5	18 55.10	2 37.373		
	Weisse XXIII, 764	35.9	48.6	0.3	20 48.27	2 35.881	+ 1 1.36	— 1.558
	Iris	37.3	49.6	2.0	21 49.63	2 37.439		
	Weisse XXIII, 764	47.3	59.6	11.8	22 59.53	2 35.789	+ 1 1.37	— 1.612
	Iris	48.5	1.0	13.2	24 0.90	2 37.401		

RESULTS.

Corr. Chron. + 0 m. s. 3.26

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 685,	23 33 9.38	+ 7 7 10.27

Iris—Weisse XXIII, 685,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 58 14.13	+ 1 56.93	+ 1 35.51
	Δt	+ .32	
	Δϱ	.00	+ .04
	p	+ .01	+ 4.47

Corr. Chron. — 0 m. s. 0.48

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 685,	23 33 9.37	+ 7 7 10.36

Iris—Weisse XXIII, 685,

		Δa	Δδ
	h. m s.	m. s.	′ ″
M. T.	8 31 39.88	+ 2 3.42	+ 3 39.09
	Δt	+ .33	
	Δϱ	.00	+ .08
	p	— .04	+ 4.44

Corr. Chron. — 0 m. s. 25.21

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 710,	23 34 23.71	+ 6 25 51.08
Weisse XXIII, 764,	23 37 15.13	+ 6 22 13.06

Iris—Weisse XXIII, 710,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 59 38.19	+ 2 13.37	+ 9 52.99
	Δt	+ .37	
	Δϱ	.00	+ .23
	p	+ .06	+ 4.36

Iris—Weisse XXIII, 764,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 3 40.05	+ 0 14.49	+ 9 58.46
	Δt	+ .04	
	Δϱ	.00	+ .24
	p	+ .06	+ 4.39

Corr. Chron. — 0 m. s 46.22

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 764,	23 37 15.11	+ 6 22 12.56

Iris—Weisse XXIII, 764,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 19 34.64	— 1 1.46	— 0 24.61
	Δt	— .16	
	Δϱ	.00	— .01
	p	+ .01	+ 4.27

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Nov. 11	Weisse XXIII, 764	55.0	7.7	19.8	8 26 7.50	2 35.780	+ 1 1.40	— 1.671
	Iris - - - - -	56.3	9.2	21.2	27 8.90	2 37.451		
17	Weisse XXIII, 831	24.7	37.0	49.2	23 41 36.97	1 40.532	+ 1 7.58	— 50.582
	Iris - - - - -	32.1	44.2	57.4	42 44.55	3 30.999		
	Weisse XXIII, 870 -	- -	30.0	42.6	43 30.27	2 37.985	— 0 45.72	— 22.950
	Weisse XXIII, 831 -	15.0	27.3	39.8	44 27.36	1 40.668	+ 1 6.99	— 50.342
	Iris - - - - -	22.2	34.6	47.2	45 34.35	3 30.895		
	Weisse XXIII, 870	- -	20.6	33.0	46 20.13	2 37.891	— 0 45.78	— 22.940
	Weisse XXIII, 831 -	20.0	32.9	45.0	56 32.65	1 40.569	+ 1 7.59	— 50.428
	Iris - - - -	27.8	40.2	52.7	57 40.24	3 30.882		
	Weisse XXIII, 870	13.4	26.0	38.3	58 25.89	2 37.830	— 0 45.65	— 22.988
	Weisse XXIII, 831 -	10.0	22.2	- -	0 0 22.22	1 40.571	+ 1 7.85	— 50.414
	Iris - - - - -	17.9	30.0	- -	1 30.07	3 30.870		
	Weisse XXIII, 870 -	3.4	15.7	- -	2 15.68	2 37.750	— 0 45.61	— 23.056
	Weisse XXIII, 831 -	38.7	50.8	- -	3 50.79	1 40.547	+ 1 7.87	— 50.390
	Iris - - - - -	46.5	58.6	- -	4 58.66	3 30.822		
	Weisse XXIII, 870 -	32.2	44.4	56.6	5 44.39	2 37.742	— 0 45.73	— 23.016
	Weisse XXIII, 831 -	30.5	42.9	53.4	6 42.26	1 40.401	+ 1 8.56	— 50.437
	Iris - - - - -	38.6	50.8	3.1	6 50.82	3 30.723		
	Weisse XXIII, 870 -	24.1	36.4	48.7	8 36.35	2 37.598	— 0 45.53	— 23.061
17	Weisse XXIII, 831 -	31.0	43.2	55.8	7 45 43.33	1 40.842	+ 1 7.00	— 50.278
	Iris - - - - -	38.0	50.0	3.0	46 51.33	3 31.005		
	Weisse XXIII, 870 -	- -	36.0	48.5	47 36.08	2 38.070	— 0 45.75	— 22.871
	Weisse XXIII, 831 -	48.0	0.4	13.0	49 0.47	1 40.752	+ 1 6.76	— 50.319
	Iris - - - - -	55.0	7.2	19.5	50 7.23	3 30.956		
	Weisse XXIII, 870 -	40.8	53.5	6.1	50 53.47	2 37.940	— 0 46.24	— 22.952
	Weisse XXIII, 831	35.0	48.1	0.3	8 31 47.80	1 40.670	+ 1 7.97	— 50.373
	Iris - - - - -	43.2	56.0	8.1	32 55.77	3 30.928		
	Weisse XXIII, 870 -	28.5	41.2	53.0	33 40.90	2 37.789	— 0 45.13	— 23.075
22	Weisse XXIII, 932 -	52.0	5.0	17.7	7 41 4.90	2 33.260	+ 0 3.80	— 37.245
	Iris - - - -	56.0	9.1	21.0	41 8.70	1 25.951		
	Weisse XXIII, 932	36.0	48.3	1.0	42 48.43	2 33.219	+ 0 3.94	— 37.343
	Iris - - - - -	40.5	52.3	4.3	43 52.37	1 25.812		
	Weisse XXIII, 932 -	31.2	43.0	55.7	45 43.30	2 33.191	+ 0 3.93	— 37.290
	Iris - - - - -	35.0	47.5	59.2	45 47.23	1 25.837		
	Weisse XXIII, 932	16.2	29.0	41.0	47 28.73	2 33.342	+ 0 4.44	— 37.428
	Iris - - - -	21.0	33.2	45.3	47 33.17	1 25.850		
	Weisse XXIII, 932	8.3	20.0	33.0	48 20.43	2 33.372	+ 0 4.50	— 37.352
	Iris - - - - -	12.5	24.8	37.5	48 24.93	1 25.956		
	Weisse XXIII, 932	25.2	38.2	50.2	50 37.87	2 33.262	+ 0 4.23	— 37.290
	Iris - - - - -	29.3	42.4	54.6	50 42.10	1 25.908		
	Weisse XXIII, 932	46.2	58.9	11.0	51 58.70	2 33.373	+ 0 4.33	— 37.260
	Iris - - - - -	50.4	3.5	15.2	52 3.03	1 26.049		
	Weisse XXIII, 932 -	52.3	5.0	17.5	54 4.93	2 33.365	+ 0 4.57	— 37.256
	Iris - - - - -	57.0	9.3	22.2	54 9.50	1 26.045		
	Weisse XXIII, 932 -	38.2	50.2	2.7	55 50.37	2 33.450	+ 0 4.86	— 37.497
	Iris - - - -	42.5	55.0	8.2	55 55.23	1 25.889		
	Weisse XXIII, 932 -	14.0	26.3	38.5	57 26.27	2 33.410	+ 0 4.46	— 37.247
	Iris - - - - -	18.3	30.9	43.0	57 30.73	1 26.099		

RESULTS.

Nov. 11, Corr. Chron. + 0 m. 45.29 s.

	α (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 831,	23 40 40.56	+ 6 20 29.22
Weisse XXIII, 870,	23 42 33.83	+ 6 13 26.53

Iris—Weisse XXIII, 831,

		Δα (m. s.)	Δδ (′ ″)
Sid. T. 23 57 18.41		+ 1 7.74	—12 55.12
	Δϱ	.00	— .30
	p +	.03	+ 4.11

Iris—Weisse XXIII, 870,

		Δα (m. s.)	Δδ (′ ″)
Sid. T. 23 57 18.41		— 0 45.67	— 5 53.53
	Δϱ	.00	— .14
	p +	.03	+ 4.12

17, Corr. Chron. — 1 m. 18.93 s.

	α (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 831,	23 40 40.56	+ 6 20 29.22
Weisse XXIII, 870,	23 42 33.88	+ 6 13 26.53

Iris—Weisse XXIII, 831,

		Δα (m. s.)	Δδ (′ ″)
M. T. 8 1 58.85		+ 1 7.24	—12 53.44
	Δt +	.18	
	Δϱ	.00	— .30
	p +	.01	+ 4.11

Iris—Weisse XXIII, 870,

		Δα (m. s.)	Δδ (′ ″)
M. T. 8 1 58.85		— 0 45.71	— 5 52.98
	Δt —	.13	
	Δϱ	.00	— .14
	p +	.01	+ 4.11

22, Corr. Chron. — 1 m. 51.32 s.

	α (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 932,	23 46 33.37	+ 5 52 29.48

Iris—Weisse XXIII, 932,

		Δα (m. s.)	Δδ (′ ″)
M. T. 7 47 51.38		+ 0 4.31	— 9 33.61
	Δt +	.01	
	Δϱ	.00	— .23
	p +	.01	+ 4.01

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 26	Iris	13.0	26.0	38.5	7 3 25.83	1 26.715			
	8331, B.A.C.	38.5	51.2	3.0	5 50.90	1 23.691	— 2 25.07	— 3.024	Corr. Chron. — 2 17.02 (m. s.)
	Iris	8.2	20.2	33.0	7 20.47	1 26.561			α δ
	8331, B.A.C.	33.5	46.0	58.5	9 46.00	1 23.690	— 2 25.53	— 2.871	8331, B.A.C., 23 h. 51 m. 42.09 s. + 6° 2′ 33.30″
	Iris	41.0	53.9	6.2	10 53.70	1 26.519			Iris—8331, B.A.C.,
	8331, B.A.C.	6.5	18.7	31.0	13 18.73	1 23.787	— 2 25.03	— 2.732	△α △δ
	Iris	54.3	7.2	19.2	14 6.90	1 26.598			M. T. 7 h. 12 m. 13.04 s. — 2 m. 24.99 s. — 0′ 43.85″
	8331, B.A.C.	19.5	31.7	44.6	16 31.93	1 23.690	— 2 25.03	— 2.908	Δt — .40
	Iris	39.0	52.0	4.2	23 51.73	1 26.429			Δϱ .00 + .02
	8331, B.A.C.	4.3	16.2	29.0	26 16.50	1 23.698	— 2 24.77	— 2.731	p — .03 + 3.89
	Iris	9.2	22.0	34.0	27 21.73	1 26.436			
	8331, B.A.C.	34.1	46.3	58.3	29 46.23	1 23.585	— 2 24.50	— 2.851	
28	Iris	23.1	36.1	48.0	7 26 35.73	1 49.342			
	8331, B.A.C.	51.0	3.0	16.0	27 3.33	1 51.324	— 0 27.60	+ 1.982	Corr. Chron. — 2 26.14 (m. s.)
	Iris	28.2	40.6	53.0	27 40.60	1 49.321			α δ
	8331, B.A.C.	56.2	8.2	20.3	28 8.23	1 51.368	— 0 27.63	+ 2.047	8331, B.A.C., 23 h. 51 m. 42.08 s. + 6° 2′ 33.10″
	Iris	9.1	21.2	33.7	29 21.33	1 49.270			Iris—8331, B.A.C.
	8331, B.A.C.	36.0	48.8	1.8	29 48.87	1 51.401	— 0 27.54	+ 2.131	△α △δ
	Iris	20.2	32.9	45.0	30 32.70	1 49.389			M. T. 7 h. 30 m. 22.61 s. — 0 m. 27.54 s. + 0′ 31.57″
	8331, B.A.C.	48.1	0.3	13.2	31 0.53	1 51.368	— 0 27.83	+ 1.979	Δt — .08
	Iris	41.0	53.7	6.0	31 53.57	1 49.390			Δϱ .00 + .01
	8331, B.A.C.	9.0	21.2	33.7	32 21.30	1 51.448	— 0 27.73	+ 2.058	p + .01 + 3.83
	Iris	48.3	0.7	13.0	34 0.67	1 49.348			
	8331, B.A.C.	16.0	28.0	40.7	34 28.23	1 51.420	— 0 27.56	+ 2.072	
	Iris	59.1	11.7	24.2	35 11.67	1 49.330			
	8331, B.A.C.	27.2	39.3	51.7	35 39.40	1 51.420	— 0 27.73	+ 2.090	
	Iris	9.0	21.7	34.1	36 21.60	1 49.302			
	8331, B.A.C.	36.0	49.0	1.2	36 48.73	1 51.395	— 0 27.13	+ 2.093	
	Iris	23.6	36.0	48.2	37 35.93	1 49.351			
	8331, B.A.C.	51.0	3.4	15.7	38 3.37	1 51.369	— 0 27.44	+ 2.018	
	Iris	41.3	53.7	6.0	38 53.67	1 49.296			
	8331, B.A.C.	8.5	20.9	33.2	39 20.87	1 51.370	— 0 27.20	+ 2.074	
29	8331, B.A.C.	55.0	7.5	19.3	7 34 7.27	2 30.298	+ 0 34.50	+ 5.928	
	Iris	29.1	42.0	54.2	34 41.77	2 24.370			Corr. Chron. + 1 25.73 (m. s.)
	8331, B.A.C.	9.2	21.2	34.0	39 21.47	2 30.255	+ 0 35.00	+ 5.794	α δ
	Iris	44.2	56.2	9.0	39 56.47	2 24.461			8331, B.A.C., 23 h. 51 m. 42.07 s. + 6° 2′ 33.00″
	8331, B.A.C.	26.1	38.1	50.2	40 38.13	2 30.222	+ 0 35.30	+ 5.762	Iris—8331, B.A.C.,
	Iris	1.3	13.0	26.0	41 13.43	2 24.460			△α △δ
	8331, B.A.C.	45.5	58.0	10.6	41 58.03	2 30.180	+ 0 35.30	+ 5.791	M. T. 7 h. 46 m. 54.64 s. + 0 m. 35.27 s. + 1′ 29.65″
	Iris	20.8	33.5	45.7	42 33.33	2 24.389			Δt + .10
	8331, B.A.C.	56.2	9.0	21.2	43 8.80	2 30.291	+ 0 35.07	+ 5.909	Δϱ .00 + .04
	Iris	31.2	44.2	56.2	43 43.87	2 24.382			p + .04 + 3.82
	8331, B.A.C.	17.7	29.2	42.0	44 29.63	2 30.273	+ 0 35.54	+ 5.885	
	Iris	52.5	5.2	17.8	45 5.17	2 24.388			
	8331, B.A.C.	35.3	47.5	0.2	46 47.33	2 30.700	+ 0 35.97	+ 5.719	
	Iris	11.2	23.2	35.5	47 23.30	2 24.981			

(Continued.)

IRIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Nov. 29	8331, B.A.C.	26.2	38.2	51.0	8 8 38.47	2 30.741	+ 0 35.46	+ 5.881
	Iris	1.8	14.0	26.0	9 13.93	2 24.860		
Dec. 20	89, B.A.C.	20.9	33.2	45.2	7 54 33.10	5 43.648	+ 1 35.97	+ 68.812
	Iris	57.0	9.2	21.0	56 9.07	1 34.985		
	89, B.A.C.	22.0	34.7	47.1	58 34.60	5 43.569	+ 1 35.50	+ 68.777
	Iris	58.1	10.0	22.2	8 0 10.10	1 34.941		
	89, B.A.C.	11.2	23.2	35.0	2 23.13	5 43.535	+ 1 36.00	+ 68.936
	Iris	47.1	59.0	11.3	3 59.13	1 34.748		
	89, B.A.C.	33.2	45.2	57.7	5 45.37	5 43.469	+ 1 36.03	+ 68.828
	Iris	9.0	21.2	34.0	7 21.40	1 34.790		
	89, B.A.C.	5.0	18.0	30.7	9 17.90	5 43.504	+ 1 36.43	+ 69.053
	Iris	42.0	54.0	7.0	10 54.33	1 34.600		
	89, B.A.C.	12.0	25.3	37.0	13 24.77	5 43.488	+ 1 36.86	+ 69.026
	Iris	49.2	1.7	14.0	15 1.63	1 34.611		

RESULTS.

Corr. Chron. — 0 m. 7.27 s.

	α	δ
	h. m. s.	° ′ ″
89, B.A.C.,	0 18 3.35	+ 6 52 15.28

Iris—89, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 5 28.67	+ 1 36.13	+17 39.04
	Δt	+ .26	
	Δϱ	.00	+ .43
	p	+ .14	+ 3.25

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Aug. 13	Weisse II, 158	48.0	0.1	13.0	12 39 0.37	3 37.680	+ 1 14.63	+ 35.586
	Parthenope	3.0	15.0	27.0	40 15.00	2 32.030		
	Weisse II, 158	47.0	58.5	11.0	44 58.83	3 37.676	+ 1 14.50	+ 35.542
	Parthenope	1.0	13.0	26.0	46 13.33	2 32.070		
	Weisse II, 158	16.2	28.5	40.8	48 28.50	3 37.652	+ 1 14.50	+ 35.430
	Parthenope	31.0	43.0	55.0	49 43.00	2 32.158		
	Weisse II, 158	50.3	3.0	15.2	51 2.83	3 37.710	+ 1 15.44	+ 35.637
	Parthenope	. .	18.2	30.0	52 18.27	2 32.009		
	Weisse II, 158	14.0	26.2	39.2	53 26.47	3 37.798	+ 1 14.70	+ 35.369
	Parthenope	29.0	41.5	53.0	54 41.17	2 32.165		
	Weisse II, 158	11.3	24.1	36.0	56 23.80	3 37.705	+ 1 15.27	+ 35.633
	Parthenope	27.0	39.0	51.2	57 39.07	2 32.008		
	Weisse II, 158	45.0	57.2	10.0	58 57.40	3 37.740	+ 1 15.00	+ 35.587
	Parthenope	0.0	12.2	25.0	13 0 12.40	2 32.089		
16	Parthenope	50.0	3.0	15.0	12 15 2.66	3 43.441		
	Weisse II, 235	54.0	6.2	19.2	16 6.46	1 56.000	— 1 3.80	— 47.556
	Parthenope	2.0	14.0	27.0	21 14.33	3 43.305		
	Weisse II, 235	. .	18.3	30.1	22 18.30	1 56.082	— 1 3.97	— 47.338
	Parthenope	26.0	38.0	. .	27 38.00	3 43.645		
	Weisse II, 235	29.3	42.3	54.1	28 41.90	1 56.271	— 1 3.90	— 47.489
	Parthenope	32.0	44.0	. .	31 44.00	3 43.741		
	Weisse II, 235	34.8	47.5	0.3	32 47.53	1 56.391	— 1 3.53	— 47.465
	Parthenope	30.0	43.0	. .	36 43.00	3 43.805		
	Weisse II, 235	33.2	46.0	58.2	37 45.80	1 56.459	— 1 2.80	— 47.461
	Parthenope	34.2	47.2	59.7	39 47.03	3 43.881		
	Weisse II, 235	37.4	49.7	2.3	40 49.80	1 56.550	— 1 2.77	— 47.446
	Parthenope	41.0	53.2	5.2	43 53.13	3 43.823		
	Weisse II, 235	43.2	56.2	8.2	44 55.86	1 56.529	— 1 2.73	— 47.409
	Parthenope	40.1	52.7	4.7	47 52.50	3 44.000		
	Weisse II, 235	42.5	54.7	7.6	48 54.93	1 56.619	— 1 2.43	— 47.496
	Parthenope	50.8	3.0	15.2	49 3.00	3 44.030		
	Weisse II, 235	53.6	6.1	18.2	50 5.96	1 56.601	— 1 2.96	— 47.544
	Parthenope	57.1	9.3	22.0	52 9.46	3 44.019		
	Weisse II, 235	0.0	12.6	25.0	53 12.53	1 56.693	— 1 3.07	— 47.441
	Parthenope	43.2	55.3	8.1	56 55.53	3 43.931		
	Weisse II, 235	45.2	58.0	11.2	57 58.19	1 56.712	— 1 2.66	— 47.334
	Parthenope	32.3	45.1	57.1	59 44.83	3 43.880		
	Weisse II, 235	35.3	47.1	0.3	13 0 47.56	1 56.752	— 1 2.73	— 47.243
	Parthenope	2.1	14.3	. .	1 14.30	3 43.973		
	Weisse II, 235	4.2	17.1	29.1	2 16.80	1 56.760	— 1 2.50	— 47.328
Oct. 6	Weisse II, 112	0.9	13.0	25.6	11 37 13.17	2 26.150	+ 0 36.16	— 37.724
	Parthenope	37.0	49.0	2.0	37 49.33	3 33.938		
	Weisse II, 112	11.9	24.0	36.0	41 23.97	2 26.122	+ 0 35.60	— 37.846
	Parthenope	. .	59.5	12.0	41 59.57	3 34.032		
	Weisse II, 112	50 2	3.0	15.2	45 2.80	2 26.035	+ 0 35.77	— 38.083
	Parthenope	. .	38.5	51.0	45 38.57	3 34.182		

RESULTS.

Corr. Chron. — 0 m. s. 13.01

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 158,	2 10 49.74	+ 7 29 31.90

Parthenope—Weisse II, 158,

		△α (m. s.)	△δ (′ ″)
M. T.	12 51 21.60	+ 1 14.86	+ 9 6.68
	Δt	+ .20	
	Δϱ	— .01	+ .35
	p	— .21	+ 2.71

Corr. Chron. — 0 m. s. 22.57

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 235,	2 15 3.59	+ 7 51 57.98

Parthenope—Weisse II, 235,

		△α (m. s.)	△δ (′ ″)
M. T.	12 41 19.11	— 1 3.07	—12 8.93
	Δt	— .17	
	Δϱ	+ .02	— .46
	p	— .22	+ 2.81

Corr. Chron. — 0 m. s. 17.25

	α (h. m. s.)	δ (° ′ ″)
Weisse II, 112,	2 8 2.53	+ 4 57 31.49

Parthenope—Weisse II, 112,

		△α (m. s.)	△δ (′ ″)
M. T.	11 41 31.91	+ 0 35.84	— 9 42.26
	Δt	+ .10	
	Δϱ	.00	— .25
	p	— .12	+ 3.46

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 8	Parthenope	30.5	42.9	55.3	0 22 42.89	3 51.185		
	Weisse II, 112	- -	42.4	-	23 42.34	1 28.069	— 0 59.45	— 83.231
	Parthenope	- -	24.3	36.9	26 24.28	3 51.139		
	Weisse II, 112	- -	- -	36.6	27 24.15	1 27.983	— 0 59.87	— 83.271
	Parthenope	1.2	13.3	- -	31 13.30	3 51.271		
	Weisse II, 112	- -	13.3	25.7	32 13.26	1 27.791	— 0 59.96	— 83.595
	Parthenope	- -	44.5	56.9	34 44.47	3 51.327		
	Weisse II, 112	32.0	44.5	56.9	35 44.43	1 28.018	— 0 59.96	— 83.424
	Parthenope	- -	24.3	36.9	38 24.29	3 51.398		
	Weisse II, 112	- -	24.5	- -	39 24.45	1 27.965	— 1 0.16	— 83.548
	Parthenope	28.4	40.9	- -	41 40.97	3 51.408		
	Weisse II, 112	28.3	40.8	53.5	42 40.87	1 27.919	— 0 59.90	— 83.604
9	687, B.A.C.	58.4	- -	23.3	23 47 10.82	3 36.079	+ 0 29.96	+ 44.615
	Parthenope	28.2	40.8	53.3	47 40.78	2 21.400		
	687, B.A.C.	14.9	- -	39.6	49 27.24	3 36.065	+ 0 29.73	+ 44.507
	Parthenope	44.5	- -	9.5	49 56.97	2 21.494		
	687, B.A.C.	16.9	29.5	41.7	51 29.34	3 36.098	+ 0 29.75	+ 44.455
	Parthenope	- -	- -	11.5	51 59.09	2 21.579		
	687, B.A.C.	42.9	55.3	7.7	55 55.29	3 36.305	+ 0 29.42	+ 44.506
	Parthenope	12.2	24.7	37.2	56 24.71	2 21.735		
9	687, B.A.C.	21.0	33.5	45.5	11 15 33.33	3 36.631	+ 0 27.95	+ 44.069
	Parthenope	- -	1.3	14.0	16 1.28	2 22.498		
	687, B.A.C.	33.0	46.0	58.0	17 45.77	3 36.624	+ 0 28.31	+ 43.869
	Parthenope	- -	14.1	26.5	18 14.08	2 22.691		
	687, B.A.C.	51.2	3.5	16.0	19 3.57	3 36.669	+ 0 28.41	+ 43.900
	Parthenope	- -	32.0	44.0	19 31.98	2 22.705		
	687, B.A.C.	31.2	43.6	56.0	20 43.60	3 36.668	+ 0 27.80	+ 43.762
	Parthenope	59.0	11.2	24.0	21 11.40	2 22.842		
10	Parthenope	13.2	25.2	38.0	10 41 25.47	1 49.385		
	687, B.A.C.	34.0	46.2	58.2	41 46.13	2 40.890	— 0 20.66	+ 21.684
	Parthenope	18.5	31.0	43.0	42 30.83	1 49.368		
	687, B.A.C.	39.0	51.9	4.0	42 51.63	2 40.819	— 0 20.80	+ 21.630
	Parthenope	43.2	55.2	8.0	44 55.57	1 49.521		
	687, B.A.C.	4.2	- -	29.2	45 16.70	2 40.906	— 0 21.13	+ 21.364
	Parthenope	6.2	18.2	31.8	46 18.73	1 49.619		
	687, B.A.C.	27.5	39.0	52.0	46 39.50	2 40.902	— 0 20.77	+ 21.462
	Parthenope	21.3	33.2	46.1	47 33.53	1 49.611		
	687, B.A.C.	42.0	54.4	7.2	47 54.53	2 40.895	— 0 21.00	+ 21.463
	Parthenope	45.7	58.1	- -	48 57.97	1 49.583		
	687, B.A.C.	6.5	19.2	31.5	49 19.07	2 40.978	— 0 21.10	+ 21.574
	Parthenope	17.2	29.7	41.3	50 29.40	1 49.526		
	687, B.A.C.	38.0	50.2	3.3	50 50.50	2 40.959	— 0 21.10	+ 21.612
	Parthenope	36.2	48.5	0.5	51 48.40	1 49.594		
	687, B.A.C.	57.0	9.3	21.3	52 9.20	2 40.962	— 0 20.80	+ 21.547

RESULTS.

m. s.
Corr. Chron. + 0 27.13

	α	δ
	h. m. s.	° ′ ″
Weisse II, 112,	2 8 2.55	+ 4 57 31.55

Parthenope—Weisse II, 112,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	0 32 58.83	— 0 59.88	—21 22.52
	Δt	— .16	
	Δϱ	+ .01	— .55
	p	— .13	+ 3.50

m. s.
Corr. Chron. + 0 27.63

	α	δ
	h. m. s.	° ′ ″
687, B.A.C.,	2 5 45.00	+ 4 19 4.68

Parthenope—687, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	23 51 58.02	+ 0 29.72	+11 24.27
	Δt	+ .08	
	Δϱ	— .01	+ .32
	p	— .18	+ 3.56

m. s.
Corr. Chron. — 0 34.44

	α	δ
	h. m. s.	° ′ ″
687, B.A.C.,	2 5 45.00	+ 4 19 4.68

Parthenope—687, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	11 18 10.24	+ 0 28.12	+11 14.73
	Δt	+ .08	
	Δϱ	.00	+ .30
	p	— .13	+ 3.60

m. s.
Corr. Chron. — 0 38.94

	α	δ
	h. m. s.	° ′ ″
687, B.A.C.,	2 5 45.00	+ 4 19 4.69

Parthenope—687, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 50 41.46	— 0 21.12	+ 5 30.34
	Δt	— .06	
	Δϱ	.00	+ .15
	p	— .16	+ 3.57

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Oct. 10	Parthenope	42.9	56.2	-	10 53 56.17	1 49.522		
	687, B.A.C.	4.2	17.2	27.6	54 17.00	2 40.802	— 0 20.83	+ 21.459
	Parthenope	4.1	16.3	29.0	55 16.47	1 49.608		
	687, B.A.C.	25.6	38.1	50.3	55 38.00	2 40.781	— 0 21.53	+ 21.352
	Parthenope	32.1	44.2	56.5	56 44.20	1 49.639		
	687, B.A.C.	53.2	5.2	18.3	57 5.57	2 40.968	— 0 21.37	+ 21.508
	Parthenope	1.3	13.4	26.0	58 13.57	1 49.647		
	687, B.A.C.	22.6	34.9	47.2	58 34.90	2 40.905	— 0 21.33	+ 21.437
	Parthenope	16.5	28.2	40.9	59 28.53	1 49.781		
	687, B.A.C.	38.0	50.2	2.7	59 50.30	2 40.855	— 0 21.77	+ 21.253
	Parthenope	54.2	6.9	19.0	11 1 6.70	1 49.597		
	687, B.A.C.	16.3	28.0	40.3	1 28.20	2 40.769	— 0 21.50	+ 21.351
15	Parthenope	16.0	28.0	40.5	10 26 28.17	2 52.316		
	Weisse II, 35	5.0	18.0	29.6	29 17.53	1 49.905	— 2 49.36	— 32.590
	Parthenope	43.2	55.7	8.0	31 55.63	2 52.340		
	Weisse II, 35	33.0	45.0	57.5	34 45.17	1 49.920	— 2 49.54	— 32.599
	Parthenope	8.0	20.0	32.7	37 20.30	2 52.348		
	Weisse II, 35	57.3	9.3	22.0	40 9.53	1 49.940	— 2 49.23	— 32.587
	Parthenope	0.2	13.0	25.6	42 12.93	2 52.529		
	Weisse II, 35	50.2	2.0	15.0	45 2.40	1 50.000	— 2 49.47	— 32.708
17	Parthenope	45.5	58.3	10.0	10 17 57.93	1 50.021		
	Weisse II, 7	30.4	42.2	55.0	20 42.53	3 39.566	— 2 44.60	+ 49.660
	Parthenope	51.9	4.7	17.2	22 4.60	1 50.023		
	Weisse II, 7	37.0	49.0	2.0	24 49.33	3 39.592	— 2 44.73	+ 49.684
	Parthenope	36.2	48.2	1.0	31 48.47	1 50.008		
	Weisse II, 7	21.4	34.0	46.2	34 33.87	3 39.398	— 2 45.40	+ 49.505
	Parthenope	8 1	20.2	32.5	35 20.26	1 50.053		
	Weisse II, 7	53.0	5.5	18.1	37 5.53	3 39.463	— 2 45.27	+ 49.525
	Parthenope	48.2	1.0	13.0	39 0.73	1 50.133		
	Weisse II, 7	33.8	46.0	58.3	41 46.03	3 39.352	— 2 45.30	+ 49.334
	Parthenope	34.6	47.0	59.5	42 47.03	1 50.092		
	Weisse II, 7	20.3	32.5	45.0	45 32.60	3 39.323	— 2 45.57	+ 49.346
23	Parthenope	43.1	55.5	7.7	10 17 55.43	2 45.378		
	Weisse I, 963	2.3	14.7	27.1	18 14.70	1 45.629	— 0 19.27	— 29.928
	Parthenope	29.3	41.0	- -	19 40.75	2 45.329		
	Weisse I, 963	48.3	1.3	13.1	20 0.90	1 45.580	— 0 20.15	— 29.928
	Parthenope	30.3	42.3	- -	20 42.05	2 45.500		
	Weisse I, 963	49.1	2.3	14.2	21 1.87	1 45.551	— 0 19.82	— 30.128
	Parthenope	10.3	22.7	3.5	22 22.67	2 45.455		
	Weisse I, 963	30.0	42.3	54.6	22 42.30	1 45.450	— 0 19.63	— 30.184
	Parthenope	53.8	6.0	18.3	24 6.03	2 45.469		
	Weisse I, 963	13.0	25.5	38.0	24 25.50	1 45.422	— 0 19.47	— 30 226
	Parthenope	16.2	28.3	40.3	25 28.26	2 45.503		
	Weisse I, 963	36.1	48.1	1.2	25 48.47	1 45.532	— 0 20.21	— 30.150

RESULTS.

m. s.
Corr. Chron. — 0 56.05

	a	δ
	h. m. s.	° ′ ″
Weisse II, 35,	2 3 50.66	+ 4 4 19.60

Parthenope—Weisse II, 35,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 33 33.21	— 2 49.40	— 8 21.37
	Δt	— .46	
	Δϱ	.00	— .23
	p	— .16	+ 3.60

m. s.
Corr. Chron. — 1 2.91

	a	δ
	h. m. s.	° ′ ″
Weisse II, 7,	2 1 57.18	+ 3 31 43.15

Parthenope—Weisse II, 7,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 30 26.93	— 2 45.14	+12 40.93
	Δt	— .45	
	Δϱ	.00	+ .34
	p	— .16	+ 3.72

m. s.
Corr. Chron. + 0 33.28

	a	δ
	h. m. s.	° ′ ″
Weisse I, 963,	1 53 57.78	+ 3 20 3.47

Parthenope—Weisse I, 963,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 23 44.16	— 0 19.80	— 7 42.53
	Δt	— .05	
	Δϱ	.00	— .20
	p	— .11	+ 3.62

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 23	Parthenope	35.5	48.1	-	10 26 48.25	2 45 298		
	Weisse I, 963	53.6	7 8	20.3	27 7.93	1 45.361	— 0 19.68	— 30.116
	Parthenope	11.3	23.5	36.0	28 23.60	2 45.418		
	Weisse I, 963	31.5	43.6	56.2	28 47.77	1 45.498	— 0 20.17	— 30.099
31	Parthenope	37.2	49.1	1.0	10 8 49.10	2 24.935		
	Weisse I, 847	19.3	32.0	44.0	9 31.77	2 10.639	— 0 42.67	— 14.296
	Parthenope	37.0	49.1	2.0	11 49.37	2 24.944		
	Weisse I, 847	19.6	32.0	44.0	12 31.87	2 10.689	— 0 42.50	— 14.255
	Parthenope	44.0	56 0	8.7	13 56.23	2 24.946		
	Weisse I, 847	27.1	39.3	51.5	14 39.30	2 10.738	— 0 43.07	— 14.208
	Parthenope	25.1	37.8	49.7	15 37.53	2 25.020		
	Weisse I, 847	8.4	20.8	33.2	16 20.80	2 10.593	— 0 43.27	— 14.427
	Parthenope	52.8	5.2	17.5	18 5.17	2 25.009		
	Weisse I, 847	36.0	48.2	0.8	18 48.33	2 10.728	— 0 43.16	— 14.281
	Parthenope	40.7	52.7	5.0	19 52.80	2 25.069		
	Weisse I, 847	23.6	35.7	48.0	20 35.77	2 10.634	— 0 42.97	— 14.435
	Parthenope	18.1	30.2	42.0	22 30.10	2 25.098		
	Weisse I, 847	1.2	13.2	25.7	23 13.37	2 10.778	— 0 43.27	— 14.320
	Parthenope	18.1	30.5	42.2	24 30.26	2 25.089		
	Weisse I, 847	1.2	13.2	25.5	25 13.30	2 10.671	— 0 43.04	— 14.418
	Parthenope	57.5	9.0	22.0	27 9.50	2 25.239		
	Weisse I, 847	41.1	53.1	5.0	27 53.07	2 10.841	— 0 43.57	— 14.398
	Parthenope	2.2	15.0	27.1	29 14.77	2 25.166		
	Weisse I, 847	46.1	58.1	11.0	29 58.40	2 10.800	— 0 43.63	— 14.366
Nov. 1	Parthenope	52.0	4.2	16.9	9 14 4.37	2 50.819		
	574, B.A.C.	10.9	23.1	35.0	14 23.00	3 41.192	— 0 18.63	+ 20.309
	Parthenope	24.1	36.1	48.6	16 36.27	2 50.940		
	574, B.A.C.	43.2	55.2	7.4	16 55.26	3 41.319	— 0 18.99	+ 20.315
	Parthenope	25.1	37.5	49.6	17 37.40	2 50.804		
	574, B.A.C.	44.1	55.9	9.0	17 56.33	3 41.328	— 0 18.93	+ 20.460
	Parthenope	18.1	29.7	42.0	19 29.93	2 50.845		
	574, B.A.C.	26.2	48.2	1.3	19 48.57	3 41.282	— 0 18.64	+ 20.373
	Parthenope	25.1	37.0	49.0	20 37.03	2 50.910		
	574, B.A.C.	44.1	56.1	9.0	20 56.40	3 41.448	— 0 19.37	+ 20.474
	Parthenope	26.2	38.2	51.0	22 38.47	2 50.975		
	574, B.A.C.	45.3	57.6	9.7	22 57.53	3 41.281	— 0 19.06	+ 20.242
	Parthenope	40.2	52.6	5.0	23 52.60	2 50.880		
	574, B.A.C.	59.2	11.4	23.4	24 11.33	3 41.384	— 0 18.73	+ 20.440
	Parthenope	29.1	42.1	54.0	26 41.73	2 50.975		
	574, B.A.C.	49.2	1.0	13.6	27 1.27	3 41.262	— 0 19.54	+ 20.223
	Parthenope	58.0	10.6	22.4	28 10.33	2 50.865		
	574, B.A.C.	17.2	29.4	42.0	28 29.53	3 41.287	— 0 19.20	+ 20.358
	Parthenope	24.2	36.4	- -	29 36.37	2 50.985		
	574, B.A.C.	43.0	55.7	8.0	29 55.57	3 41.289	— 0 19.20	+ 20.240

RESULTS.

m. s.
Corr. Chron. — 0 4.02

	a	δ
	h. m. s.	° ′ ″
Weisse I, 847,	1 47 7.29	+ 2 39 46.84

Parthenope—Weisse I, 847,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 19 5.46	— 0 43.12	— 3 40.40
	Δt	— .12	
	Δρ	.00	— .10
	p	— .06	+ 3.62

m. s.
Corr. Chron. — 0 1.18

	a	δ
	h. m. s.	° ′ ″
574, B.A.C.,	1 45 53.51	+ 2 27 13.78

Parthenope—574, B.A.C.,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 21 55.27	— 0 19.03	+ 5 12.66
	Δt	— .05	
	Δρ	.00	+ .14
	p	— .14	+ 3.61

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 7	Parthenope	50.0	2.0	14.2	10 6 2.07	3 36.778		
	574, B.A.C.	1.0	13.0	25.0	11 13.00	1 40.180	− 5 10.93	− 56.713
	Parthenope	59.2	11.7	24.3	14 11.73	3 36.900		
	574, B.A.C.	11.0	23.1	35.1	19 23.07	1 40.069	− 5 11.34	− 56.946
	Parthenope	33.0	45.0	58.0	25 45.33	3 36.865		
	574, B.A.C.	44.3	56.5	9 0	30 56.60	1 39.949	− 5 11.27	− 57.031
	Parthenope	28.3	41.0	53.0	32 40.77	3 36.805		
	574, B.A.C.	40.0	51.9	4.6	37 52.17	1 39.949	− 5 11.40	− 56.971
	Parthenope	52.0	5.0	17.5	12 6 4.85	3 37.121		
	574, B.A.C.	7.5	19.5	32.0	11 19.67	1 39.608	− 5 14.82	− 57.628
11	Weisse I, 675	22.0	34.0	46.3	10 13 34.10	3 34.261	+ 1 7.50	+ 43.460
	Parthenope	29.0	41.6	54.2	14 41.60	2 20.737		
	Weisse I, 675	8.2	20.2	32.6	16 20.33	3 34.198	+ 1 7.77	+ 43.689
	Parthenope	16.0	28.0	40.3	17 28.10	2 20.445		
	Weisse I, 675	35.1	47.2	59.6	18 47.30	3 34.262	+ 1 7.57	+ 43.708
	Parthenope	42.6	55.0	7.0	19 54.87	2 20.490		
	Weisse I, 675	54.2	6.0	18.5	22 6.23	3 34.278	+ 1 7.70	+ 43.585
	Parthenope	1.3	14.3	26.2	23 13.93	2 20.629		
	Weisse I, 675	28.3	40.4	52.6	24 40.43	3 34.141	+ 1 7.60	+ 43.596
	Parthenope	36.1	48.0	0.0	25 48.03	2 20.481		
	Weisse I, 675	17.7	30.0	42.6	27 30.10	3 34.212	+ 1 7.27	+ 43.619
	Parthenope	25.0	37.5	49.6	28 37.37	2 20.529		
Dec. 14	Parthenope	56.0	9.0	21.1	7 32 8.70	2 32.500		
	Weisse I, 562	5.0	17.2	29.3	34 17.17	2 38.551	− 2 8.47	+ 6.051
	Parthenope	0.0	12.4	. .	42 12.34	2 32.378		
	Weisse I, 562	9.0	21.0	33.5	44 21.17	2 38.460	− 2 8.83	+ 6.082
	Parthenope	43.0	55.2	7.5	47 55.23	2 32.470		
	Weisse I, 562	51.5	4.0	16.0	50 3.83	2 38.528	− 2 8 60	+ 6.058
17	Parthenope	23.0	35.0	47.2	7 20 35.07	1 45.020		
	Weisse I, 562	47.0	59.2	11.2	21 59.13	5 41.162	− 1 24.06	+ 56.291
	Parthenope	34.6	47.0	59.0	23 46.87	1 44.810		
	Weisse I, 562	59.0	11.2	23.0	25 11.07	5 41.129	− 1 24.20	+ 56.468
	Parthenope	16.3	28.6	41.5	26 28.80	1 44.841		
	Weisse I, 562	40.8	53.5	5.7	27 53.33	5 41.136	− 1 24.53	+ 56.444
	Parthenope	54.5	6.3	18.5	30 6.30	1 44.689		
	Weisse I, 562	17.9	29.5	42.5	31 29.97	5 41.212	− 1 23.67	+ 56.672
18	Parthenope	24.0	36.0	47.9	7 12 35.97	1 27.678		
	Weisse I, 562	29.5	42.0	54.2	13 41.90	5 41.922	− 1 5.93	+ 74.393
	Parthenope	33.6	46.2	58.0	17 45.93	1 27.388		
	Weisse I, 562	40.2	52.5	4.6	18 52.43	5 41.860	− 1 6.50	+ 74.621
	Parthenope	43.5	56.0	8.0	21 55.83	1 27.418		
	Weisse I, 562	49.0	2.3	14.0	23 1.77	5 41.801	− 1 5.94	+ 74.532

RESULTS.

m. s.
Corr. Chron. − 0 26.20

	a	δ
	h. m. s.	° ′ ″
574, B.A.C.,	1 45 53.50	+ 2 27 13.48

Parthenope—574, B.A.C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 40 30.75	− 5 11.95	−14 36.96
	Δt	− .85	
	Δϱ	.00	− .38
	p	+ .05	+ 3.54

m. s.
Corr. Chron. − 0 47.50

	a	δ
	h. m. s.	° ′ ″
Weisse I, 675,	1 36 41.66	+ 1 52 9.16

Parthenope—Weisse I, 675,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 20 49.82	+ 1 7.57	+11 10.25
	Δt	+ .18	
	Δϱ	.00	+ .29
	p	+ .01	+ 3.42

m. s.
Corr. Chron. + 0 24.70

	a	δ
	h. m. s.	° ′ ″
Weisse I, 562,	1 32 4.18	+ 2 42 1.32

Parthenope—Weisse I, 562,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 41 10.12	− 2 8.63	+ 1 42.01
	Δt	− .35	
	Δϱ	.00	+ .04
	p	− .02	+ 2.83

m. s.
Corr. Chron. − 0 12.55

	a	δ
	h. m. s.	° ′ ″
Weisse I, 562,	1 32 4.14	+ 2 42 1.13

Parthenope—Weisse I, 562,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 25 1.71	− 1 24.12	+14 27.91
	Δt	− .23	
	Δϱ	.00	+ .37
	p	− .02	+ 2.76

m. s.
Corr. Chron. − 0 10.18

	a	δ
	h. m. s.	° ′ ″
Weisse I, 562,	1 32 4.13	+ 2 42 1.05

Parthenope—Weisse I, 562,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 17 15.73	− 1 6.12	+19 5.26
	Δt	− .18	
	Δϱ	.00	+ .49
	p	− .03	+ 2.75

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 18	Weisse I, 497	11.2	24.0	36.0	7 30 23.73	2 44.872	+ 2 11.20	− 1.713
	Parthenope	22.7	35.0	47.1	32 34.93	2 46.585		
	Weisse I, 497	55.0	7.0	19.2	34 7.07	2 44.830	+ 2 10.73	− 1.834
	Parthenope	5.6	18.2	29.6	36 17.80	2 46.664		
	Weisse I, 497	15.2	27.3	39.2	37 27.23	2 44.731	+ 2 10.84	− 1.870
	Parthenope	26.0	38.0	50.2	39 38.07	2 46.601		
	Weisse I, 497	26.2	38.2	50.6	40 38.33	2 44.755	+ 2 11.07	− 1.570
	Parthenope	37.5	49.0	1.7	42 49.40	2 46.325		
	Weisse I, 497	45.1	57.0	9.5	43 57.20	2 44.691	+ 2 11.53	− 1.642
	Parthenope	57.0	8.5	20.7	46 8.73	2 46.333		
23	Weisse I, 540	27.0	39.0	52.0	8 28 39.50	4 37.510	+ 1 34.17	+ 17.035
	Parthenope	1.0	14.0	26.0	30 13.67	3 33.381		
	Weisse I, 540	44.0	56.2	8.3	37 56.17	4 37.507	+ 1 34.66	+ 17.121
	Parthenope	18.5	31.0	43.0	39 30.83	3 33.292		
	Weisse I, 540	58.2	9.6	22.1	40 9.97	4 37.402	+ 1 34.13	+ 16.968
	Parthenope	32.2	44.1	56.0	42 44.10	3 33.340		
	Weisse I, 540	29.2	41.3	53.7	44 41.40	4 37.439	+ 1 34.90	+ 17.077
	Parthenope	4.1	16.0	28.0	46 16.30	3 33.268		
26	Weisse I, 607	14.1	26.2	38.2	8 28 26.17	2 35.137	+ 0 37.33	− 6.564
	Parthenope	51.0	..	16.0	29 3.50	2 41.701		
	Weisse I, 628	6.0	18.0	30.2	29 18.07	3 37.069	− 0 14.57	+ 8.346
	Weisse I, 607	35.1	46.8	59.1	31 47.00	2 34.998	+ 0 36.75	− 6.490
	Parthenope	11.3	..	36.2	32 23.75	2 41.488		
	Weisse I, 628	26.2	38.0	51.0	32 38.40	3 36.909	− 0 14.65	+ 8.399
	Weisse I, 607	33.2	45.5	57.3	35 45.33	2 34.995	+ 0 37.37	− 6.340
	Parthenope	10.5	23.0	34.6	36 22.70	2 41.335		
	Weisse I, 628	25.6	37.0	49.0	36 37.20	3 37.020	− 0 14.50	+ 8.663

RESULTS.

Corr. Chron. − 0 m. s. 10.18

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 497,	1 28 46.23	+ 3 1 35.85

Parthenope—Weisse I, 497,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 39 31.61	+ 2 11.07	− 0 26.53
	Δt +	.36	
	Δϱ	.00	− .01
	p	.00	+ 2.73

Corr. Chron. + 0 m. s. 0.05

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 540,	1 31 16.63	+ 3 22 3.23

Parthenope—Weisse I, 540,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 39 41.27	+ 1 34.46	+ 4 22.05
	Δt +	.25	
	Δϱ	.00	+ .12
	p +	.08	+ 2.63

Corr. Chron. + 0 m. s. 5.61

	a (h. m. s.)	δ (° ′ ″)
Weisse I, 607,	1 33 39.05	+ 3 44 37.66
Weisse I, 628,	1 34 30.94	+ 3 40 48.49

Parthenope—Weisse I, 607,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 32 42.26	+ 0 37.15	− 1 39.36
	Δt +	.10	
	Δϱ	.00	− .04
	p +	.08	+ 2.55

Parthenope—Weisse I, 628,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 32 42.26	− 0 14.57	+ 2 10.17
	Δt −	.04	
	Δϱ	.00	+ .06
	p +	.08	+ 2.55

COMET 1851, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 26	Comet 1851, II.	47.2	5.0	. .	10 38 4.75	2 42.751		
	2168, Groomb.	16.0	33.5	50.7	38 33.40	2 36.440	− 0 28.65	− 6.311
	2169, Groomb.	19.2	36.0	53.0	38 36.06	2 51.998		
	Comet 1851, II.	48.0	3.2	. .	44 4.06	2 41.719		
	2168, Groomb.	13.2	30.2	47.1	44 30.16	2 36.421	− 0 26.10	− 5.298
	Comet 1851, II.	52.3	9.5	. .	49 9.01	2 38.298		
	2168, Groomb.	19.2	36.3	53.2	49 36.16	2 33.118	− 0 27.15	− 5.180
	Comet 1851, II.	5.5	23.0	. .	52 22.75	2 37.312		
	2168, Groomb.	32.0	49.0	6.0	52 49.00	2 33.279	− 0 26.25	− 4.033
27	B. Z., 473, 106	1.0	. .	35.0	9 2 18.00	2 24.990	+ 0 8.90	− 22.335
	Comet 1851, II.	9.7	27.0	44.0	2 26.90	3 17.389		
	B. Z., 473, 108	5.0	22.0	39.0	3 22.00	3 12.886	− 0 55.10	− 4.503
	B. Z., 473, 106	58.0	16.1	33.1	9 15.73	2 24.850	+ 0 9.17	− 22.708
	Comet 1851, II.	7.0	24.7	43.0	9 24.90	3 17.622		
	B. Z., 473, 108	2.0	19.2	36.5	10 19.23	3 13.169	− 0 54.33	− 4.453
	B. Z., 473, 106	21.2	38.0	. .	13 38.09	2 24.920	+ 0 10.31	− 22.830
	Comet 1851, II.	31.5	48.2	5.5	13 48.40	3 17.814		
	B. Z., 473, 108	24.8	42.0	59.2	14 42.00	3 13.111	− 0 53.60	− 4.703
	B. Z., 473, 106	25.7	42.0	0.0	18 42.57	2 24.901	+ 0 11.23	− 22.825
	Comet 1851, II.	36.5	53.7	11.2	18 53.80	3 17.790		
	B. Z., 473, 108	29.2	46.5	4.0	19 46.57	3 13.075	− 0 52.77	− 4.715
	B. Z., 473, 106	39.0	56.0	13.5	24 56.16	2 24.700	+ 0 12.09	− 22.155
	Comet 1851, II.	51.0	. .	25.5	25 8.25	3 16.919		
	B. Z., 473, 108	43.0	59.2	17.2	25 59.80	3 12.930	− 0 51.55	− 3.989
	B. Z., 473, 106	26.0	42.5	59.0	30 42.50	2 24.641	+ 0 12.00	− 21.743
	Comet 1851, II.	37.5	54.0	12.0	30 54.50	3 16.448		
	B. Z., 473, 108	29.2	47.0	3.2	31 46.00	3 12.921	− 0 51.50	− 3.527
28	Comet 1851, II.	25.7	42.5	0.0	8 47 42.73	1 41.551		
	B. Z., 473, 110	. .	. .	44.0	48 26.51	3 49.560	− 0 43.78	+ 68.124
	B. Z., 473, 113	5.0	22.0	39.2	50 22.06	2 48.126		
	Comet 1851, II.	51.2	8.0	26.2	52 8.46	1 40.890		
	B. Z., 473, 110	. .	52.0	. .	52 52.16	3 49.220	− 0 43.70	+ 68.445
	Comet 1851, II.	39.5	57.0	14.2	55 56.90	1 40.915		
	B. Z., 473, 110	. .	40.0	. .	56 40.16	3 49.387	− 0 43.26	+ 68.587
	Comet 1851, II.	43.0	59.2	. .	57 59.36	1 40.870		
	B. Z., 473, 110	. .	. .	59.0	58 41.51	3 49.319	− 0 42.15	+ 68.564
	Comet 1851, II.	42.5	0.3	18.2	9 2 0.33	1 40.640		
	B. Z., 473, 110	. .	43.3	0.3	2 43.46	3 49.430	− 0 43.13	+ 68.905
	Comet 1851, II.	24.1	42.0	59.5	5 41.86	1 40.800		
	B. Z., 473, 110	. .	24.0	40.9	6 24.16	3 49.440	− 0 42.30	+ 68.755
	Comet 1851, II.	41.0	57.2	15.0	8 57.73	1 40.235		
	B. Z., 473, 110	. .	39.0	56.2	9 39.16	3 49.450	− 0 41.43	+ 69.330
	Comet 1851, II.	53.5	10.5	28.2	13 10.73	1 39.670		
	B. Z., 473, 110	. .	52.0	9.0	13 52.16	3 49.460	− 0 41.43	+ 69.905
29	A. Z., 119, 119	28.3	46.0	3.2	8 51 45.83	1 39.030	+ 1 5.87	− 68.995
	Comet 1851, II.	34.2	51.7	9.2	52 51.70	3 47.910		
	A. Z., 119, 119	44.2	2.1	20.0	58 2.10	1 39.092	+ 1 6.30	− 68.172
	Comet 1851, II.	51.2	8.5	25.5	59 8.40	3 47.149		

RESULTS.

m. s.
Corr. Chron. − 0 44.56

	α	δ
	h. m. s.	° ′ ″
2168, Groomb.,	14 50 29.60	+43 27 34.67

Comet—2168, Groomb.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 45 10.58	− 0 27.04	− 1 20.00
	Δt	− .07	
	Δϱ	.00	− .06
	p	+ .78	+ 5.32

m. s.
Corr. Chron. − 0 47.10

	α	δ
	h. m. s.	° ′ ″
B. Z., 473, 106,	14 52 38.27	+44 0 31.37
B. Z., 473, 108,	14 53 33.43	+43 55 50.50

Comet—B. Z., 473, 106,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 15 59.02	+ 0 10.62	− 5 44.79
	Δt	+ .03	
	Δϱ	.00	− .12
	p	+ .75	+ 3.05

Comet—B. Z., 473, 108,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 15 59.02	− 0 53.14	− 1 6.32
	Δt	− .15	
	Δϱ	.00	− .02
	p	+ .75	+ 3.05

m. s.
Corr. Chron. − 0 46.80

	α	δ
	h. m. s.	° ′ ″
B. Z., 473, 110,	14 56 32.11	+44 7 32.52

Comet—B. Z., 473, 110,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 59 40.46	− 0 42.65	+17 37.83
	Δt	− .12	
	Δϱ	− .02	+ .33
	p	+ .74	+ 2.65

(Continued.)

COMET 1851, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 29	A. Z., 111, 119	12.0	30.2		9 2 30.28	1 39.087	+ 1 6.45	— 67.948
	Comet 1851, II.	20.0	36.2	54.0	3 36.73	3 46.920		
	A. Z., 111, 119	19.2	36.5	54.2	6 36.63	1 38.959	+ 1 7.14	— 67.877
	Comet 1851, II.	26.3	43.6	1.4	7 43.77	3 46.721		
	A. Z., 111, 119	49.2	6.2	24.0	10 6.46	1 39.105	+ 1 7.54	— 67.282
	Comet 1851, II.	57.0	14.0	31.0	11 14.00	3 46.272		
	A. Z., 111, 119	20.9	37.2	56.0	14 38.03	1 38.970	+ 1 7.80	— 66.910
	Comet 1851, II.	28.3	46.2	3.0	15 45.83	3 45.765		
31	Comet 1851, II.	59.2	17.2	34.0	10 45 16.80	2 32.456		
	A. Z., 118, 11	26.0	44.0	1.7	46 43.90	2 23.610	— 1 27.10	— 8.846
	Comet 1851, II.	5.5	24.2	41.0	47 23.57	2 32.300		
	A. Z., 118, 11	32.3	50.3	8.1	48 50.23	2 23.629	— 1 26.66	— 8.671
	Comet 1851, II.	59.5	18.0	35.0	51 17.50	2 32.185		
	A. Z., 118, 11	26.0	43.7	1.2	52 43.63	2 23.392	— 1 26.13	— 8.793
	Comet 1851, II.	32.5	49.5	7.0	53 49.66	2 32.094		
	A. Z., 118, 11	58.0	16.2	34.0	55 16.06	2 23.278	— 1 26.40	— 8.816

RESULTS.

m. s.
Corr. Chron. — 0 46.99

	α	δ
	h. m. s.	° ′ ″
A. Z., 111, 119,	14 57 50.29	+45 13 35.64

Comet—A. Z., 111, 119,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 4 16.41	+ 1 6.85	—17 23.02
	Δt +	.18	
	Δϱ +	.02	— .33
	p +	.76	+ 2.67

m. s.
Corr. Chron. — 0 50.48

	α	δ
	h. m. s.	° ′ ″
A. Z., 118, 11,	15 6 14.07	+46 2 28.31

Comet—A. Z., 118, 11,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 48 36.40	— 1 26.57	— 2 14.96
	Δt —	.23	
	Δϱ	.00	— .09
	p +	.84	+ 5.51

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 29	Hygea	26.9	39.3	51.7	20 6 39.30	2 42.482		
	177, B.A.C.	20.8	33.4	45.8	10 33.34	2 44.630	− 3 54.04	+ 2.148
	Hygea	39.7	52.0	4.7	11 52.15	2 42.609		
	177, B.A.C.	33.8	46.1	58.7	15 46.19	2 44.638	− 3 54.04	+ 2.029
	Hygea	30.8	43.9	56.2	17 43.63	2 42.580		
	177, B.A.C.	22.3	34.7	47.4	21 37.78	2 44.652	− 3 54.15	+ 2.072
Sept. 19	66, B.A.C.	17.7	30.2	42.7	9 6 30.20	2 50.640	+ 3 26.40	+ 21.869
	Hygea	44.2	- -	9.0	9 56.60	1 58.950		
	66, B.A.C.	36.0	48.2	0.0	11 48.07	2 50.645	+ 3 27.00	+ 21.798
	Hygea	3.0	15.0	27.2	15 15.07	2 28.847		
	66, B.A.C.	13 5	26.0	38.5	18 26.00	2 50.592	+ 3 27.00	+ 21.671
	Hygea	40.0	53.0	- -	21 53.00	2 28.921		
21	66, B.A.C.	41.2	53.2	6.0	10 3 53.47	2 34.978	+ 1 58.53	− 11.482
	Hygea	39.5	52.0	4.5	5 52.00	2 46.460		
	66, B.A.C.	42.7	55.2	8.0	9 55.30	2 35.020	+ 1 58.23	− 11.462
	Hygea	41.2	53.2	6.2	11 53.53	2 46.482		
	66, B.A.C.	38.1	51.2	3.5	13 50.93	2 35.031	+ 1 58.44	− 11.518
	Hygea	37.0	49.0	2.1	15 49.37	2 46.549		
	66, B.A.C.	40.4	52.6	5.2	16 52.73	2 34.876	+ 1 58.27	− 11.682
	Hygea	38.5	51.0	3.5	18 51.00	2 46.558		
	66, B.A.C.	31.0	43.5	55.7	19 43.40	2 34.915	+ 1 58.00	− 11.587
	Hygea	29.0	41.2	54.0	21 41.40	2 46.502		
	66, B.A.C.	19.7	- -	44.7	22 32.20	2 34.931	+ 1 58.00	− 11.631
	Hygea	18.2	29.7	42.7	24 30.20	2 46.562		
	66, B.A.C.	35.7	47.9	0.3	25 47.97	2 34.855	+ 1 57.60	− 11.823
	Hygea	33.2	45.5	58.0	27 45.57	2 46.678		
	66, B.A.C.	15.0	28.1	40.2	29 27.77	2 34.981	+ 1 57.80	− 11.628
	Hygea	13.2	25.5	38.0	31 25.57	2 46.609		
	66, B.A.C.	35.2	47.3	59.7	32 47.40	2 34.965	+ 1 57.66	− 11.690
	Hygea	33.0	45.0	- -	34 45.06	2 46.655		
Oct. 1	Hygea	23.6	34.3	48 3	0 14 35.39	2 27.619		
	Weisse O, 192	18.4	32.0	43.2	18 31.12	2 50.652	− 3 55.73	+ 23.033
	Hygea	17.8	30.2	43.0	21 30.32	2 27.562		
	Weisse O, 192	12.9	25.1	37.9	25 25.29	2 50.589	− 3 54.97	+ 23.027
	Hygea	- -	39.4	- -	27 39.50	2 27.671		
	Weisse O, 192	22.4	34.6	47.2	31 34.73	2 50.762	− 3 55.23	+ 23.091
6	Hygea	47.5	59.7	12.3	23 8 59.82	2 42.588		
	Weisse O, 89	6.8	19.3	31.8	10 19.29	3 35.179	− 1 19.47	+ 22.527
	Weisse O, 104	10.4	23.0	35.3	11 22.85	3 39.141	− 2 23.03	+ 26.489
	Hygea	52.6	- -	17.5	13 5.05	2 42.579		
	Weisse O, 89	-	24.4	- -	14 24.38	3 35.190	− 1 19.33	+ 22.547
	Weisse O, 104	15.7	- -	40.7	15 28.17	3 39.191	− 2 23.12	+ 26.548
	Hygea	50.4	2.7	15.4	17 2.79	2 42.620		
	Weisse O, 89	8.9	22.6	34.9	18 22.12	3 35.080	− 1 19.33	+ 22.396
	Weisse O, 104	13.8	26.2	38.6	19 26.19	3 39.111	− 2 23.40	+ 26.427

RESULTS.

Corr. Chron. + 0 m. 10.51 s.

	α	δ
	h. m. s.	° ′ ″
177, B.A.C.,	0 33 32.18	+ 8 32 38.74

Hygea—177, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	20 12 15.58	− 3 54.08	+ 0 32.02
	Δρ	.00	+ .02
	p	− .16	+ 1.97

Corr. Chron. + 0 m. 24.49 s.

	α	δ
	h. m. s.	° ′ ″
66, B.A.C.,	0 12 58.45	+ 7 22 0.22

Hygea—66, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 16 6.05	+ 3 26.80	+ 5 34.74
	Δt	+ .56	
	Δρ	.00	+ .17
	p	− .14	+ 1.98

Corr. Chron. + 0 m. 18.83 s.

	α	δ
	h. m. s.	° ′ ″
66, B.A.C.,	0 12 58.47	+ 7 22 0.38

Hygea—66, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 21 42.57	+ 1 58.05	− 2 58.47
	Δt	+ .32	
	Δρ	.00	− .07
	p	− .09	+ 1.91

Corr. Chron. + 0 m. 24.37 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 192,	0 11 30.31	+ 6 27 31.73

Hygea—Weisse O, 192,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	0 21 39.44	− 3 55.31	+ 5 54.27
	Δρ	.00	+ .14
	p	+ .01	+ 1.91

(Continued.)

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 6	Hygea - - - -	54.1	- -	- -	23 21 6.55	2 42.662		
	Weisse O, 89 - -	14.1	26.4	39.1	22 26.53	3 35.292	− 1 19.98	+ 22.566
	Weisse O, 104 -	17.9	- -	42.6	23 30.06	3 39.127	− 2 23.51	+ 26.401
	Hygea - - - -	46.8	- -		24 59.14	2 42.688		
	Weisse O, 89 - -	6.6	-	31.4	26 19.02	3 35.229	− 1 19.88	+ 22.477
	Weisse O, 104 - -	10.5	22.8	35.1	27 22.79	3 39.099	− 2 23.65	+ 26.347
	Hygea - - - -	28.9	41.2	53.7	29 41.24	2 42.649		
	Weisse O, 89 - -	48.6	1.3	13.7	31 1.14	3 35.293	− 1 19.90	+ 22.580
	Weisse O, 104 - -	52.5	-	17.4	32 4.90	3 39.249	− 2 23.66	+ 26.536
8	Rumker, 11970 - -	19.2	31.5	- -	23 34 31.50	2 44.141	+ 3 14.37	− 10.024
	Hygea - - -	33.3	45.9	58.4	37 45.87	2 54.165		
	Rumker, 11970 - -	12.5	24.8	37.3	42 24.86	2 44.165	+ 3 14.38	− 10.259
	Hygea - - - -	26.9	- -	51.6	45 39.24	2 54.424		
	Rumker, 11970 - -	41.6	- -	- -	46 54.06	2 44.242	+ 3 14.12	− 10.207
	Hygea - - - -	55.5	8.2	- -	50 8.18	2 54.449		
	Rumker, 11970 - -	47.2	59.5	- -	50 59.50	2 44.198	+ 3 13.93	− 10.274
	Hygea - - - -	- -	13.4	25.7	54 13.43	2 54.472		
9	Rumker, 11970 - -	- -	- -	36.7	22 44 24.24	1 51.272	+ 2 35.57	− 27.879
	Hygea - - - -	47.4	59.7	12.4	46 59.81	2 48.970		
	Rumker, 11970 - -	- -	3.6	16.0	48 3.56	1 51.282	+ 2 35.44	− 27.837
	Hygea - - - -	26.8	- -	51.2	50 39.00	2 48.940		
	Rumker, 11970 - -	9.3	- -	- -	51 21.78	1 51.134	+ 2 35.36	− 27.946
	Hygea - - - -	44.6	57.2	9.6	53 57.14	2 48.901		
	Rumker, 11970 - -	48.8	- -	13.7	55 1.22	1 51.220	+ 2 34.98	− 27.964
	Hygea - - -	-	36.2	49.0	57 36.20	2 49.005		
	Rumker, 11970 - -	- -	34.7	47.3	58 34.67	1 51.172	+ 2 35.36	− 27.936
	Hygea - - - -	57.5	10.0	22.6	23 1 10.03	2 48.929		
	Rumker, 11970 - -	- -	17.7	30.2	2 17.68	1 51.170	+ 2 35.06	− 27.919
	Hygea - - - -	40.2	52.8	5.3	4 52.74	2 48.910		
10	Rumker, 11970 - -	23.2	36.0	48.2	9 47 35.80	1 37.092	+ 1 55.20	− 46.334
	Weisse XXIII, 1251	- -	56.2	8.0	48 56.31	3 37.878	+ 0 34.69	+ 14.567
	Hygea - - - -	18.5	30.5	44.0	49 31.00	3 23.311		
	Rumker, 11970 - -	51.0	3.7	16.2	51 3.63	1 37.109	+ 1 55.58	− 46.286
	Weisse XXIII, 1251 - -	- -	24.1	36.2	52 24.21	3 37.749	+ 0 35.00	+ 14.469
	Hygea - - - -	- -	59.1	11.2	52 59.21	3 23.280		
	Rumker, 11970 - -	31.7	44.1	56.2	54 44.00	1 37.081	+ 1 55.20	− 46.436
	Weisse XXIII, 1251	51.6	4.3	16.2	56 4.03	3 37.787	+ 0 35.17	+ 14.385
	Hygea - - - -	27.2	39.2	51.2	56 39.20	3 23.402		
	Rumker, 11970 - -	51.3	4.2	16.2	58 3.90	1 37.112	+ 1 54.70	− 46.325
	Weisse XXIII, 1251	11.7	24.3	36.6	59 24.20	3 37.743	+ 0 34.40	+ 14.421
	Hygea - - - -	46.2	58.3	11.3	59 58.60	3 23.322		
	Rumker, 11970 - -	34.7	47.0	2.5	10 0 48.07	1 37.072	+ 1 54.06	− 46.563
	Weisse XXIII, 1251	55.2	7.3	20.2	2 7.57	3 37.791	+ 0 34.56	+ 14.271
	Hygea - - - -	30.2	42.0	54.2	2 42.13	3 23 520		
14	11941, Rumker - -	32.0	45.0	57.0	9 9 44.67	1 39.892	+ 1 46.50	− 35.592
	Weisse XXIII, 1180	41.0	53.5	5.7	9 53.40	2 35.038	+ 1 37.77	− 10.267
	Hygea - - - -	19.0	31.0	43.5	11 31.17	2 45.305		

RESULTS.

m. s.
Corr. Chron. + 0 26.99

	α	δ
	h. m. s.	° ′ ″
Weisse O, 89,	0 5 25.57	+ 6 4 17.35
Weisse O, 104,	0 6 29.51	+ 6 3 17.77

Hygea—Weisse O, 89,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	23 19 36.09	− 1 19.65	+ 5 46.05
	Δϱ	.00	+ .14
	p −	.04	+ 1.93

Hygea—Weisse O, 104,

Sid. T.	23 19 36.09	− 2 23.40	+ 6 46.65
	Δϱ	.00	+ .16
	p −	.04	+ 1.93

m. s.
Corr. Chron. + 0 30.46

	α	δ
	h. m. s.	° ′ ″
Rumker, 11970,	23 59 28.93	+ 6 3 5.50

Hygea—Rumker, 11970,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	23 47 27.14	+ 3 14.20	− 2 36.63
	Δϱ	.00	− .06
	p −	.01	+ 1.92

m. s.
Corr. Chron. + 0 31.00

	α	δ
	h. m. s.	° ′ ″
Rumker, 11970,	23 59 28.93	+ 6 3 5.50

Hygea—Rumker, 11970,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	22 56 23.49	+ 2 35.30	− 7 9.01
	Δϱ	.00	− .17
	p −	.05	+ 1.93

m. s.
Corr. Chron. − 0 37.94

	α	δ
	h. m. s.	° ′ ″
Rumker, 11970,	23 59 28.93	+ 6 3 5 50
Weisse XXIII, 1251,	0 0 49.07	+ 5 47 31.70

Hygea—Rumker, 11970,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 55 44.09	+ 1 54.95	−11 52.98
	Δt +	.31	
	Δϱ	.00	− .28
	p −	.04	+ 1.93

Hygea—Weisse XXIII, 1251,

M. T.	9 55 44.09	− 0 34.76	+ 3 41.68
	Δt	.10	
	Δϱ	.00	− .09
	p −	.04	+ 1.94

(Continued.)

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 14	11941, Rumker	49.0	1.5	14.0	9 16 1.50	1 40.000	+ 1 46.33	— 35.629
	Weisse XXIII, 1180	..	10.0	22.5	16 9.98	2 35.039	+ 1 37.85	— 10.411
	Hygea	35.5	48.0	0.0	17 47.83	2 45.450		
	11941, Rumker	55.5	7.5	20.0	19 7.67	1 39.911	+ 1 45.81	— 35.796
	Weisse XXIII, 1180	..	16.5	28.7	19 16.45	2 35.051	+ 1 37.03	— 10.477
	Hygea	..	53.5	6.2	20 53.48	2 45.528		
	11941, Rumker	55.2	7.0	19.8	22 7.33	1 39.921	+ 1 45.54	— 35.777
	Weisse XXIII, 1180	..	16.0	28.0	22 15.98	2 35.027	+ 1 36.89	— 10.492
	Hygea	40.5	53.1	5.0	23 52.87	2 45.519		
	11941, Rumker	56.0	..	20.9	25 8.45	1 39.874	+ 1 45.82	— 35.953
	Weisse XXIII, 1180	5.0	17.5	29.7	25 17.40	2 34.860	+ 1 36.87	— 10.788
	Hygea	42.0	53.9	6.9	26 54.27	2 45.648		
	11941, Rumker	29.7	..	54.2	29 41.95	1 39.952	+ 1 45.42	— 35.815
	Weisse XXIII, 1180	38.0	51.3	3.7	29 51.00	2 34.890	+ 1 36.37	— 10.698
	Hygea	15.2	27.2	39.7	31 27.37	2 45.588		
	11941, Rumker	37.5	50.0	2.2	32 49.90	1 39.812	+ 1 45.80	— 35.960
	Weisse XXIII, 1180	46.0	58.3	11.0	32 58.43	2 34.805	+ 1 37.27	— 10.788
	Hygea	23.2	35.7	48.2	34 35.70	2 45.593		
	11941, Rumker	50.0	..	14.0	37 2.00	1 39.822	+ 1 46.10	— 36.046
	Weisse XXIII, 1180	58.2	11.0	23.2	37 10.80	2 34.961	+ 1 37.30	— 10.728
	Hygea	36.0	48.0	0.3	38 48.10	2 45.689		
	11941, Rumker	54.6	7.0	18.9	40 6.83	1 39.850	+ 1 45.50	— 36.005
	Weisse XXIII, 1180	..	15.5	28.3	40 15.48	2 34.978	+ 1 36.85	— 10.698
	Hygea	40.1	52.3	4.6	41 52.33	2 45.676		
	11941, Rumker	3.5	16.0	28.1	43 15.87	1 39.790	+ 1 45.13	— 36.161
	Weisse XXIII, 1180	..	24.2	36.2	43 24.18	2 34.910	+ 1 36.82	— 10.862
	Hygea	48.5	1.0	13.5	45 1.00	2 45.772		
19	11913, Rumker	42.2	54.3	6.0	9 33 54.16	2 26.689	+ 0 48.61	— 8.087
	Hygea	30.2	43.1	55.0	34 42.77	2 34.776		
	11913, Rumker	21.2	33.1	46.3	35 33.53	2 26.700	+ 0 48.40	— 7.890
	Hygea	9.7	22.0	34.6	36 21.93	2 34.590		
	11913, Rumker	57.8	10.3	22.1	37 10.07	2 26.612	+ 0 48.03	— 8.169
	Hygea	45.7	58.1	10.5	37 58.10	2 34.781		
	11913, Rumker	55.1	7.3	..	40 7.27	2 26.532	+ 0 48.06	— 8.267
	Hygea	43.1	55.3	7.6	40 55.33	2 34.819		
	11913, Rumker	39.7	52.0	4.6	41 52.10	2 26.609	+ 0 47.80	— 8.023
	Hygea	28.0	39.7	52.0	42 39.90	2 34.632		
	11913, Rumker	37.2	49.3	1.7	43 49.40	2 26.578	+ 0 47.83	— 8.071
	Hygea	25.0	37.1	49.6	44 37.23	2 34.649		
20	11913, Rumker	11.9	24.0	36.2	10 14 24.03	2 25.931	+ 0 15.14	— 25.134
	Hygea	27.0	39.0	51.5	14 39.17	3 21.129		
	11913, Rumker	9.5	21.2	34.0	15 21.57	2 25.888	+ 0 15.16	— 25.319
	Hygea	..	..	49.1	15 36.73	3 21.271		
	11913, Rumker	44.1	56.0	8.0	18 56.03	2 25.775	+ 0·15.24	— 25.421
	Hygea	..	11.2	23.7	19 11.27	3 21.260		
	11913, Rumker	5.3	18.0	30.5	21 17.93	2 25.845	+ 0 14.94	— 25.351
	Hygea	20.5	33.0	45.1	21 32.87	3 21.260		
	11913, Rumker	1.0	13.0	25.2	22 13.06	2 25.942	+ 0 15.04	— 25.404
	Hygea	16.0	28.0	40.3	22 28.10	3 21.410		

RESULTS.

Oct. 14

Corr. Chron. — 0 m. 51.73 s.

	α	δ
	h. m. s.	° ′ ″
11941, Rumker,	23 57 6.31	+ 5 41 58.81
Weisse XXIII, 1180,	23 57 15.22	+ 5 35 32.59

Hygea—11941, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 28 24.68	+ 1 45.80	— 9 11.35
	Δt	+ .28	
	Δϱ	.00	— .24
	p	— .05	+ 1.99

Hygea—Weisse XXIII, 1180,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 28 24.68	+ 1 37.10	— 2 43.24
	Δt	+ .26	
	Δϱ	.00	— .07
	p	— .05	+ 1.99

19

Corr. Chron. — 1 m. 10.40 s.

	α	δ
	h. m. s.	° ′ ″
11913, Rumker,	23 55 10.07	+ 5 12 36.57

Hygea—11913, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 38 22.14	+ 0 48.12	— 2 4.26
	Δt	+ .13	
	Δϱ	.00	— .05
	p	— .02	+ 1.92

20

Corr. Chron. + 0 m. 46.27 s.

	α	δ
	h. m. s.	° ′ ″
11913, Rumker,	23 55 10.07	+ 5 12 35.58

Hygea—11913, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 20 19.14	+ 0 15.17	— 6 29.80
	Δt	+ .04	
	Δϱ	.00	— .16
	p	+ .02	+ 1.91

(Continued.)

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 20	11913, Rumker	21.7	33.0	46.0	10 23 33.57	2 25.983	+ 0 15.50	— 25.541
	Hygea	.	49.0	1.0	23 49.07	3 21.588		
27	Weisse XXIII, 1032	8.1	20.0	32.7	9 53 20.26	2 38.590	+ 1 53.24	+ 13.375
	Hygea	1.0	13.5	26.0	55 13.50	2 25.215		
	Weisse XXIII, 1032	17.0	29.0	42.0	58 29.33	2 38.595	+ 1 53.87	+ 13.785
	Hygea	11.0	23.2	. .	10 0 23.20	2 24.810		
	Weisse XXIII, 1032	37.3	50.2	2.4	3 49.97	2 38.500	+ 1 53.03	+ 13.395
	Hygea	31.0	43.0	55.0	5 43.00	2 25.105		
	Weisse XXIII, 1032	58.0	10.2	22.7	7 10.30	2 38.423	+ 1 52.86	+ 13.451
	Hygea	51.0	3.5	15.0	9 3.16	2 24.972		
	Weisse XXIII, 1032	18.5	31.0	43.5	26 31.00	2 38.168	+ 1 52.87	+ 13.268
	Hygea	11.6	24.0	36.0	28 23.87	2 24.900		
Nov. 1	Weisse XXIII, 1032	6.9	19.3	31.6	0 38 19.25	1 44.860	+ 0 2.48	— 54.141
	Hygea	. .	. .	34.1	38 21.73	3 38.886		
	Weisse XXIII, 1032	53.5	6.0	18.3	40 5.94	1 44.819	+ 0 2.91	— 54.355
	Hygea	56.3	8.9	21.3	40 8.85	3 39.059		
	Weisse XXIII, 1032	26.2	38.7	51.1	41 38.65	1 44.829	+ 0 2.79	— 54.309
	Hygea	29.1	41.4	53.8	41 41.44	3 39.023		
	Weisse XXIII, 1032	9.9	22.2	34.5	43 22.19	1 44.872	+ 0 2.71	— 54.168
	Hygea	12.4	24.9	. .	43 24.90	3 38.925		
	Weisse XXIII, 1032	37.5	49.8	2.3	45 49.87	1 44.872	+ 0 2.93	— 54.065
	Hygea	40.6	52.7	5.1	45 52.80	3 38.822		
	Weisse XXIII, 1032	8.2	20.2	34.0	47 20.81	1 44.830	+ 0 2.52	— 54.237
	Hygea	11.3	23.1	35.6	47 23.33	3 38.952		
	Weisse XXIII, 1032	35.3	48.3	0.7	48 48 09	1 44.840	+ 0 2.99	— 54.194
	Hygea	38.8	51.0	3.4	48 51.08	3 38.919		
	Weisse XXIII, 1032	2.2	14.7	27.2	50 14.67	1 44.811	+ 0 2.85	— 54.373
	Hygea	5.3	17.5	29.8	50 17.52	3 39.069		
	Weisse XXIII, 1032	40.0	52.3	4.7	51 52.29	1 44.843	+ 0 2.58	— 54.504
	Hygea	42.5	54.9	7.8	51 54.87	3 39.232		
	Weisse XXIII, 1032	22.3	34.7	47.1	53 34.71	1 44.842	+ 0 2.62	— 54.193
	Hygea	25.0	37.4	49.6	53 37.33	3 38.920		
7	Hygea	7.1	19.5	31.2	9 22 19.27	1 39.620		
	11777, Rumker	39.3	51.2	3.2	22 51.23	2 46.849	— 0 31.96	— 37.408
	Hygea	42.6	55.0	. .	23 55.24	1 39.636		
	11777, Rumker	15.0	27.5	40.1	24 27.53	2 46.905	— 0 32.29	— 37.448
	Hygea	24.1	36.2	49.0	25 36.43	1 39.540		
	11777, Rumker	56.0	8.2	20.8	26 8.33	2 46.870	— 0 31.90	— 37.509
	Hygea	55.5	7.5	. .	27 7.74	1 39.700		
	11777, Rumker	27.5	39.5	52.5	27 39.83	2 46.871	— 0 32.09	— 37.350
	Hygea	29.3	41.5	53.2	29 41.33	1 39.612		
	11777, Rumker	1.5	13.6	26.0	30 13.70	2 46.765	— 0 32.37	— 37.332
	Hygea	17.5	29.7	41.7	32 29.63	1 39.582		
	11777, Rumker	49.0	1.7	14.0	33 1.57	2 46.949	— 0 31.94	— 37.546

RESULTS.

Oct. 20, 27:

m. s.
Corr. Chron. + 0 19.92

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 1032,	23 50 12.80	+ 4 34 48.46

Hygea—Weisse XXIII, 1032,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 8 5.27	+ 1 53.17	+ 3 26.80
	Δt	+ .31	
	Δϱ		+ .08
	p	+ . .03	+ 1.90

Nov. 1:

m. s.
Corr. Chron. + 0 40.71

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 1032,	23 50 12.79	+ 4 34 48.38

Hygea—Weisse XXIII, 1032,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	0 46 50.09	+ 0 2.74	—13 53.86
	Δϱ		— .35
	p	+ .04	+ 1.87

7:

m. s.
Corr. Chron. — 0 26.20

	a	δ
	h. m. s.	° ′ ″
11777, Rumker,	23 49 11.80	+ 3 54 0.73

Hygea—11777, Rumker,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 26 25.41	— 0 32.09	— 9 35.32
	Δt	— .09	
	Δϱ		— .24
	p	+ .03	+ 1.85

(Continued.)

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 11	Hygea - - - -	41.2	54.0	6.0	9 45 53.73	2 46.457		
	11777, Rumker - -	54.0	6.2	19.2	47 6.47	2 46.560	— 1 12.74	+ 0.103
	Hygea - - - -	19.2	31.5	- -	48 31.74	2 46.182		
	11777, Rumker - -	32.5	44.2	57.2	49 44.63	2 46.665	— 1 12.89	+ 0.483
	Hygea - - - -	44.4	56.5	9.3	50 56.73	2 46.384		
	11777, Rumker - -	57.2	9.2	22.0	52 9.47	2 46.662	— 1 12.74	+ 0.278
28	Hygea - - - -	29.0	41.2	53.0	8 18 41.07	3 33.196		
	11777, Rumker - -	9.0	21.0	33.2	19 21.07	1 20.098	— 0 40.00	— 73.213
	Hygea - - - -	8.0	21.0	33.0	21 20.67	3 33.195		
	11777, Rumker - -	48.5	1.3	13.0	22 0.93	1 20.081	— 0 40.26	— 73.229
	Hygea - - - -	28.1	40.2	- -	24 40.20	3 33.345		
	11777, Rumker - -	7.0	20.3	32.5	25 19.93	1 20.141	— 0 39.73	— 73.319
	Hygea - - - -	42.0	54.2	7.0	26 54.40	3 33.461		
	11777, Rumker - -	22.0	34.0	47.0	27 34.33	1 20.211	— 0 39.93	— 73.365
	Hygea - - - -	9.5	22.0	- -	30 22.00	3 33.373		
	11777, Rumker - -	49.2	1.7	14.2	31 1.70	1 20.169	— 0 39.70	— 73.319
Dec. 1	11766, Rumker - -	41.9	54.5	6.5	7 14 54.30	1 45.545	+ 0 27.68	— 49.300
	Hygea - - - -	- -	22.0	34.2	15 21.98	3 34.730		
	11766, Rumker - -	47.2	59.6	12.0	19 59.60	1 45.315	+ 0 28.48	— 49.262
	Hygea - - - -	- -	28.1	40.2	20 28.08	3 34.462		
	11766, Rumker - -	5.7	18.2	30.6	22 18.17	1 45.416	+ 0 27.81	— 49.087
	Hygea - - - -	- -	46.0	58.0	22 45.98	3 34.388		
	11766, Rumker - -	31.3	43.7	56.1	24 43.70	1 45.469	+ 0 27.48	— 49.024
	Hygea - - - -	- -	11.2	24.3	25 11.18	3 34.378		
	11766, Rumker - -	11.2	23.5	35.0	27 23.23	1 45.459	+ 0 28.30	— 49.078
	Hygea - - - -	39.2	51.4	4.0	27 51.53	3 34.422		
	11766, Rumker - -	57.0	9.2	22.0	30 9.40	1 45.514	+ 0 28.68	— 49.179
	Hygea - - - -	-	38.1	50.0	30 38.08	3 34.578		
18	Weisse XXIII, 1110	59.2	11.2	23.0	8 5 11.13	1 43.153	+ 1 48.60	— 65.834
	Hygea - - - -	48.0	59.0	12.2	6 59.73	5 48.838		
	Weisse XXIII, 1110	21.0	33.0	45.0	8 33.00	1 43.222	+ 1 48.00	— 65.777
	Hygea - - - -	9.0	21.0	33.0	10 21.00	5 48.850		
	Weisse XXIII, 1110	52.0	4.3	16.6	12 4.30	1 43.208	+ 1 48.76	— 65.660
	Hygea - - - -	41.0	53.2	5.0	13 53.06	5 48.719		
	Weisse XXIII, 1110	13.2	25.4	37.5	15 25.37	1 43.567	+ 1 48.63	— 65.779
	Hygea - - - -	2.0	14.0	26.0	17 14.00	5 48.697		
19	Weisse XXIII, 1110	42.3	54.1	7.0	7 6 54.47	1 44.743	+ 2 18.60	— 57.437
	Hygea - - - -	1.0	13.0	25.2	9 13.07	5 42.031		
	Weisse XXIII, 1110	33.2	45.5	56.9	14 45.20	1 44.710	+ 2 18.80	— 57.279
	Hygea - - - -	52.0	4.0	16.0	17 4.00	5 41.840		
	Weisse XXIII, 1110	58.1	10.2	22.5	19 10.26	1 44.816	+ 2 19.44	— 57.323
	Hygea - - - -	17.5	- -	41.9	21 29.70	5 41.990		
	Weisse XXIII, 1110	30.0	42.7	55.0	23 42.57	1 44.740	+ 2 19.10	— 57.514
	Hygea - - - -	49.5	1.5	14.0	26 1.67	5 42.105		

RESULTS.

Corr. Chron. — 0 m. s. 47.50

	a	δ
	h. m. s.	° ′ ″
11777, Rumker,	23 49 11.77	+ 3 54 0.60

Hygea—11777, Rumker,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 47 39.90	— 1 12.79	+ 0 4.43
	Δt	— .19	
	Δϱ	00	.00
	p	+ .06	+ 1.83

Corr. Chron. — 2 m. s. 28.02

	a	δ
	h. m. s.	° ′ ″
11777, Rumker,	23 49 11.63	+ 3 53 59.80

Hygea—11777, Rumker,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 21 55.65	— 0 39.92	—18 46.42
	Δt	— .11	
	Δϱ	.00	— .48
	p	+ .04	+ 1.68

Corr. Chron. — 1 m. s. 12.52

	a	δ
	h. m. s.	° ′ ″
11766, Rumker,	23 48 42.07	+ 3 48 9.69

Hygea—11766, Rumker,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 22 30.28	+ 0 28.07	—12 35.49
	Δt	+ .08	
	Δϱ	.00	— .32
	p	+ .01	+ 1.66

Corr. Chron. — 0 m. s. 10.33

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 1110,	23 54 0.05	+ 4 13 46.43

Hygea—Weisse XXIII, 1110,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 11 56.62	+ 1 48.50	—16 50.74
	Δt	+ .29	
	Δϱ	+ .01	— .47
	p	+ .07	+ 1.53

Corr. Chron. — 0 m. s. 8.39

	a	δ
	h. m. s.	° ′ ″
Weisse XXIII, 1110,	23 54 0.04	+ 4 13 46.40

Hygea—Weisse XXIII, 1110,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 18 18.72	+ 2 18.98	+14 42.03
	Δt	+ .38	
	Δϱ	.00	+ .38
	p	+ .04	+ 1.51

(Continued.)

HYGEA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 23	Hygea - - - -	55.2	8.0	22.0	7 19 8.40	3 42.909		
	Weisse XXIII, 1258	31.0	44.0	56.0	21 43.67	1 44.450	— 2 35.27	— 28.550
	Hygea - - - -	41.0	53.0	5.0	25 53.00	3 42.800		
	Weisse XXIII, 1258	16.5	29.0	41.0	28 28.83	1 44.408	— 2 35.83	— 28.483
	Hygea - - - -	11.3	23.5	- -	31 23.50	3 42.705		
	Weisse XXIII, 1258	47.0	59.0	11.5	33 59.17	1 44.349	— 2 35.67	— 28.467
26	Hygea - - - -	14.1	27.3	39.0	7 0 26.80	2 37.095		
	Weisse XXIII, 1258	0.0	12.0	24.0	1 12.00	2 41.510	— 0 45.20	+ 4.415
	Weisse XXIII, 1260	0.6	13.0	24.5	1 12.70	2 31.409	— 0 45.90	— 5.686
	Hygea - - -	1.0	13.0	25.0	6 13.00	2 37.068		
	Weisse XXIII, 1258	47.0	59.0	11.2	6 59.07	2 41.809	— 0 46.07	+ 4.741
	Weisse XXIII, 1260	47.6	59.7	11.9	6 59.73	2 31.560	— 0 46.73	— 5.508
	Hygea - - -	33.0	45.5	57.6	9 45.37	2 37.131		
	Weisse XXIII, 1258	19.0	31.0	43.0	10 31.00	2 41.901	— 0 45.63	+ 4.770
	Weisse XXIII, 1260	19.7	32.0	44.0	10 31.90	2 31.480	— 0 46.53	— 5.651

RESULTS.

Corr. Chron. — 0 m. 0.46 s.

	α (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1258,	0 1 12.03	+ 4 16 17.82

Hygea—Weisse XXIII, 1258,

		△α (m. s.)	△δ (′ ″)
M. T.	7 25 27.84	— 2 35.59	— 7 18.03
	Δt	— .43	
	Δϱ	.00	— .19
	p	+ .05	+ 1.48

Corr. Chron. + 0 m. 5.05 s.

	α (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1258,	0 1 12.00	+ 4 16 17.58
Weisse XXIII, 1260,	0 1 12.58	+ 4 18 54.76

Hygea—Weisse XXIII, 1258,

		△α (m. s.)	△δ (′ ″)
M. T.	7 5 33.44	— 0 45.63	+ 1 11.35
	Δt	— .12	
	Δϱ	.00	+ .03
	p	+ .05	+ 1.46

Hygea—Weisse XXIII, 1260,

		△α (m. s.)	△δ (′ ″)
M. T.	7 5 33.44	— 0 46.38	— 1 26.30
	Δt	— .13	
	Δϱ	.00	— .09
	p	+ .05	+ 1.46

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Sept. 1	6161, B.A.C.	42.6	56.0	9.0	9 18 55.86	3 42.460	+ 6 33.83	+ 16.446
	Eunomia	-	29.6	43.0	25 29.69	2 55.950		
	6161, B.A.C.	20.9	34.0	48.0	27 34.30	3 42.142	+ 6 34.09	+ 16.368
	Eunomia	-	8.3	22.0	34 8.39	2 53.710		
	6161, B.A.C.	21.2	34.2	47.7	39 34.36	3 41.943	+ 6 33.64	+ 16.511
	Eunomia	55.0	8.0	21.0	46 8.00	2 55.368		
	6161, B.A.C.	6.5	20.0	33.6	10 7 20.03	3 40.451	+ 6 34.37	+ 16.798
	Eunomia	41.0	54.2	8.0	13 54.40	2 53.589		
2	(* 15) W.	28.1	41.3	54.7	7 25 41.36	2 48.798	+ 0 58.27	+ 9.071
	Eunomia	26.4	39.5	53.0	26 39.63	2 39.727		
	(* 15) W.	57.7	11.0	24.0	29 10.90	2 48.805	+ 0 58.73	+ 9.063
	Eunomia	56.2	9.7	23.0	30 9.63	2 39.742		
	(* 15) W.	29.2	42.5	56.0	32 42.56	2 48.732	+ 0 58.64	+ 9.014
	Eunomia	28.0	41.0	54.6	33 41.20	2 39.718		
	(* 15) W.	48.0	1.3	15.0	37 1.43	2 48.815	+ 0 58.50	+ 9.186
	Eunomia	46.8	0.0	13.0	37 59.93	2 39.629		
	(* 15) W.	37.5	51.2	4.2	41 50.96	2 48.671	+ 0 59.24	+ 9.073
	Eunomia	37.0	50.6	3.0	42 50.20	2 39.598		
	(* 15) W.	53.0	6.2	19.7	43 6.30	2 48.781	+ 0 59.03	+ 9.252
	Eunomia	52.0	5.0	19.0	44 5.33	2 39.529		
	(* 15) W.	4.7	18.2	32.0	45 18.30	2 48.710	+ 0 58.46	+ 9.160
	Eunomia	3.3	17.0	30.0	46 16.76	2 39.550		
	(* 15) W.	20.0	33.2	47.1	47 33.43	2 48.822	+ 0 59.27	+ 9.280
	Eunomia	19.2	-	46.2	48 32.70	2 39.542		
	(* 15) W.	49.2	3.1	16.2	50 2.83	2 48.728	+ 0 58.67	+ 9.206
	Eunomia	48.0	1.5	15.0	51 1.50	2 39.522		
4	(* 15) W.	55.1	9.1	22.1	8 21 8.77	3 33.917	+ 1 43.19	+ 38.851
	Eunomia	38.5	52.4	5.0	22 51.96	2 25.002		
	33684, Lalande	15.2	28.6	42.0	23 28.60	1 31.680	− 0 36.64	− 23.501
	(* 15) W.	59.0	12.3	25.7	25 12.33	3 33.800	+ 1 42.40	+ 38.887
	Eunomia	41.0	55.0	8.2	26 54.73	2 24.849		
	33684, Lalande	18.2	31.3	45.5	27 31.67	1 31.801	− 0 36.94	− 23.227
	(* 15) W.	7.7	21.3	34.7	30 21.23	3 33.891	+ 1 43.17	+ 38.978
	Eunomia	51.0	4.2	18.0	32 4.40	2 24.849		
	33684, Lalande	27.9	41.0	54.2	32 41.03			
	(* 15) W.	59.2	13.5	26.1	36 12.93	3 33.991	+ 1 42.40	+ 39.019
	Eunomia	42.0	55.0	9.0	37 55.33	2 24.908		
	33684, Lalande	-	32.0	45.7	38 32.06	1 31.901	− 0 36.73	− 23.186
	(* 15) W.	21.0	34.6	48.3	55 34.63	3 33.621	+ 1 42.87	+ 39.218
	Eunomia	4.0	17.5	31.0	57 17.50	2 24.339		
	33684, Lalande	-	33.6	7.0	57 53.69	1 31.461	− 0 36.19	− 23.057
	(* 15) W.	16.5	29.7	43.2	9 0 29.80	3 33.481	+ 1 42.76	+ 39.169
	Eunomia	59.7	12.0	26.0	2 12.56	2 24.248		
	33684, Lalande	-	48.9	2.0	2 48.99	1 31.448	− 0 36.43	− 22.979
	(* 15) W.	37.0	50.7	4.2	5 50.63	3 33.495	+ 1 43.43	+ 39.364
	Eunomia	20.0	34.1	48.1	7 34.06	2 24.067		
	33684, Lalande	56 5	9.7	23.2	8 9.80	1 31.372	− 0 35.74	− 22.874

RESULTS.

Corr. Chron. − 0 m. s. 51.54

	α h. m. s.	δ ° ′ ″
6161, B.A.C.,	18 2 39.66	−23 43 31.35

Eunomia—6161, B.A.C.,

		△α m. s.	△δ ′ ″
M. T.	9 44 3.58	+ 6 3.98	+ 4 14.08
	Δρ	+ .02	+ .50
	p	+ .14	+ 3.51

Corr. Chron. − 0 m. s. 52.23

	α h. m. s.	δ ° ′ ″
(* 15) W.,	18 8 32.27	−23 38 10.73

Eunomia—(* 15) W.,

		△α m. s.	△δ ′ ″
M. T.	7 39 16.31	+ 0 58.76	+ 2 20.55
	Δt	+ .16	
	Δρ	.00	+ .18
	p	+ .01	+ 3.72

Corr. Chron. − 0 m. s. 58.48

	α h. m. s.	δ ° ′ ″
(* 15) W.,	18 8 32.24	−23 38 10.79

Eunomia—(* 15) W.,

		△α m. s.	△δ ′ ″
M. T.	8 42 51.54	+ 1 42.89	+10 0.48
	Δt	+ .28	
	Δρ	+ .02	+ .90
	p	+ .09	+ 3.59

	α h. m. s.	δ ° ′ ″
33684, Lalande,	18 10 52.92	−23 22 10.71

Eunomia—33684, Lalande,

		△α m. s.	△δ ′ ″
M. T.	8 44 49.17	− 0 36.44	− 5 55.61
	Δt	− .10	
	Δρ	− .01	− .52
	p	+ .09	+ 3.59

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sep. 16	6222, B.A.C.	29.0	42.2	55.2	8 26 42.13	3 43.765	+ 3 46.87	+ 51.609
	Eunomia	16.0	29.0	42.0	30 29.00	1 52.271		
	6222, B.A.C.	11.0	24.2	38.0	38 24.40	3 43.519	+ 3 46.60	+ 51.933
	Eunomia	58.0	11.0	24.0	42 11.00	1 51.701		
	6222, B.A.C.	36.2		2.3	45 49.25	3 43.281	+ 3 46.75	+ 51.654
	Eunomia	22.5	36.5	49.0	49 36.00	1 51.742		
	6222, B.A.C.	57.2	10.2	23.7	51 10.37	3 43.072	+ 3 47.23	+ 51.598
	Eunomia	44.0	57.0	10.0	54 57.60	1 51.589		
	6222, B.A.C.	27.2	40.3	54.1	8 57 40.53	3 42.912	+ 3 46.27	+ 51.695
	Eunomia	13.0	27.4	40.0	9 1 26.80	1 51.332		
	6222, B.A.C.	56.2	9.3	23.0	4 9.50	3 42.780	+ 3 46.53	+ 51.854
	Eunomia	- -	56.0	9.0	7 56.03	1 51.041		
	6222, B.A.C.	13.2	26.3	39.6	10 26.33	3 42.890	+ 3 46.97	+ 51.916
	Eunomia	0.3	13.6	26.0	14 13.30	1 51.089		
18	Eunomia	49.2	3.0	16.0	8 15 2.73	1 41.680		
	(* 16) W.	5.0	19.0	32.0	16 18.66	3 44.460	− 1 15.93	+ 62.895
	Eunomia	22.2	35.0	49.0	22 35.40	1 41.642		
	(* 16) W.	38.5	52.0	5.0	23 51.83	3 44.383	− 1 16.43	+ 62.856
	Eunomia	55.0	9.0	22.0	25 8.67	1 41.370		
	(* 16) W.	11.3	25.2	38.1	26 24.86	3 44.350	− 1 16.19	+ 63.095
	Eunomia	5.0	18.1	31.5	28 18.20	1 41.440		
	(* 16) W.	21.0	34.2	48.2	29 34.46	3 44.305	− 1 16.26	+ 62.980
	Eunomia	33.2	47.0	59.5	30 16.57	1 41.425		
	(* 16) W.	49.0	2.5	16.2	32 2.57	3 44.141	− 1 16.00	+ 62.831
	Eunomia	13.3	27.0	10.2	33 26.83	1 41.222		
	(* 16) W.	29.0	42.0	55.0	34 42.00	3 44.131	− 1 15.17	+ 63.024
	Eunomia	1.0	14.0	27.0	41 14.00	1 40.932		
	(* 16) W.	16.0	30.2	43.0	41 29.73	3 43.920	− 1 15.73	+ 63.103
	Eunomia	49.0	2.0	15.5	44 2.16	1 40.788		
	(* 16) W.	4.0	17.5	31.0	45 17.57	3 43.665	− 1 15.40	+ 62.992
	Eunomia	27.2	40.2	54.0	46 40.46	1 40.710		
	(* 16) W.	43.0	56.2	9.0	47 56.07	3 43.595	− 1 15.61	+ 63.000
	Eunomia	9.2	- -	45.5	51 2.25	1 40.185		
	(* 16) W.	4.0	18.0	30.8	53 17.60	3 43.289	− 1 15.35	+ 63.219
20	Eunomia	47.0	0.0	13.0	7 52 0.00	1 42.890		
	(* 17) W.	48.0	1.5	15.0	53 1.50	3 41.415	− 1 1.50	+ 58.640
	Eunomia	- -	22.0	36.0	55 22.00	1 42.798		
	(* 17) W.	10.9	24.0	37.5	56 24.13	3 41.435	− 1 2.13	+ 58.752
	Eunomia	49.0	3.1	16.2	59 2.76	1 42.788		
	(* 17) W.	51.2	4.3	18.2	8 0 4.56	3 41.371	− 1 1.80	+ 58.698
	Eunomia	20.5	- -	47.0	2 33.75	1 42.562		
	(* 17) W.	22.0	35.2	49.0	3 35.40	3 41.245	− 1 1.65	+ 58.798
	Eunomia	41.5	54.8	9.2	5 55.17	1 40.731		
	(* 17) W.	43.7	57.2	10.6	6 57.10	3 39.508	− 1 1.93	+ 58.892
	Eunomia	3.5	17.4	34.0	8 17.30	1 40.715		
	(* 17) W.	6.2	19.2	32.5	9 19.30	3 39.333	− 1 2.00	+ 58.733

RESULTS.

m. s.
Corr. Chron. + 0 31.38

	α	δ
	h. m. s.	° ′ ″
6222, B.A.C.,	18 13 2.57	−22 59 1.25

Eunomia—6222, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 54 55.63	+ 3 46.75	+13 15.39
	Δt	+ .62	
	Δρ	+ .06	+ 1.48
	p	+ .13	+ 3.23

m. s.
Corr. Chron. + 0 26.27

	α	δ
	h. m. s.	° ′ ″
(* 16) W.,	18 19 27.27	−22 54 19.49

Eunomia—(* 16) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 34 16.00	− 1 15.81	+16 8.28
	Δt	− .20	
	Δρ	+ .06	+ 1.60
	p	+ .12	+ 3.25

m. s.
Corr. Chron. + 0 21.22

	α	δ
	h. m. s.	° ′ ″
(* 17) W.,	18 20 42.75	−22 46 23.15

Eunomia—(* 17) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 6 46.07	− 1 1.63	+15 4.26
	Δρ	+ .04	+ 1.34
	p	+ .10	+ 3.26

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 20	Eunomia	57.5	11.2	24.0	8 11 10.90	1 40.571		
	(* 17) W.	59.2	12.0	26.0	12 12.40	3 39.400	− 1 1.50	+ 58.944
	Eunomia	34.7	48.0	1.5	13 48.06	1 40.628		
	(* 17) W.	36.2	49.3	3.0	14 49.50	3 39.422	− 1 1.44	+ 58.909
	Eunomia	23.0	36.2	49.8	16 36.33	1 40.472		
	(* 17) W.	24.2	37.7	51.3	17 37.73	3 39.262	− 1 1.40	+ 58.905
	Eunomia	9.0	22.0	35.7	19 22.23	1 40.322		
	(* 17) W.	9.7	23.7	36.0	20 23.14	3 39.281	− 1 0.91	+ 59.074
21	(* 18) W.	29.2	43.2	56.0	7 44 42.80	2 53.965	+ 1 13.80	+ 7.687
	Eunomia	43.2	- -	10.0	45 56.60	2 46.278		
	(* 18) W.	51.2	4.0	18.0	53 4.40	2 53.835	+ 1 14.33	+ 7.735
	Eunomia	5.0	19.2	32.0	54 18.73	2 46.100		
	34222, Lalande	10.0	23.2	37.0	57 23.40	2 29.311	− 3 4.67	− 16.789
	(* 18) W.	11.2	24.6	37.5	59 24.43	2 53.799	+ 1 14.50	+ 7.810
	Eunomia	25.2	39.0	52.6	8 0 38.93	2 45.989		
	34222, Lalande	29.7	43.0	57.0	3 43.23	2 29.315	− 3 4.30	− 16.674
	(* 18) W.	44.2	- -	11.3	6 57.75	2 53.819	+ 1 14.28	+ 7.978
	Eunomia	- -	12.0	26.0	8 12.03	2 45.841		
	(* 18) W.	1.7	15.0	28.2	9 14.96	2 53.701	+ 1 14.50	+ 8.051
	Eunomia	16.2	29.2	43.0	10 29.46	2 45.650		
	34222, Lalande	21.0	34.3	47.5	13 34.26	2 29.137	− 3 4.80	− 16.513
	(* 18) W.	57.5	10.8	24.0	15 10.75	2 53.140	+ 1 15.25	+ 8.037
	Eunomia	13.0	26.0	39.0	16 26.00	2 45.103		
	34222, Lalande	17.0	30.0	43.5	19 30.17	2 28.639	− 3 4.17	− 16.464
	(* 18) W.	51.2	4.4	18.8	23 4.53	2 52.862	+ 1 14.77	+ 8.143
	Eunomia	6.0	19.2	33.0	24 19.30	2 44.719		
	34222, Lalande	10.3	23.2	36.2	27 23.23	2 28.236	− 3 3.93	− 16.483
	(* 18) W.	8 1	21.0	34.6	29 21.23	3 22.730	+ 1 15.80	+ 8.331
	Eunomia	23.5	37.1	50.5	30 37.03	3 14.399		
	(* 18) W.	48.2	1.2	14.0	33 0.13	2 52.381	+ 1 15.44	+ 8.080
	Eunomia	- -	- -	29.0	34 15.57	2 44.301		
	(* 18) W.	29.2	42.1	56.0	35 42.43	2 52.281	+ 1 15.60	+ 8.163
	Eunomia	44.7	58.0	11.4	36 58.03	2 44.118		
24	Eunomia	56.5	10.3	23.0	8 4 9.93	2 40.660		
	34222, Lalande	31.0	44.0	58.0	4 44.33	3 34.177	− 0 34.40	+ 23 453
	34229, Lalande	46.0	59.5	12.5	4 59.33	2 27.205	− 0 49.40	− 13.455
	Eunomia	27.0	40.3	53.2	10 40.16	2 40.519		
	34222, Lalande	1.2	15.0	28.0	11 14.73	3 33.995	− 0 34.57	+ 23.412
	34229, Lalande	16.2	29.2	43.2	11 29.53	2 27.240	− 0 49.37	− 13.279
	Eunomia	46.0	59.3	12.0	15 59.10	2 40.002		
	34222, Lalande	- -	34.0	47.2	16 33.96	3 33.582	− 0 34.86	+ 23.516
	34229, Lalande	35.0	48.0	1.2	16 48.07	2 27.012	− 0 48.97	− 12.990
25	34222, Lalande	43.0	- -	9.5	7 48 56.25	3 35.575	+ 0 17.25	+ 36.742
	34229, Lalande	57.5	- -	24.2	49 10.85	2 28.769	+ 0 2.65	0.000
	Eunomia	0.0	- -	27.0	49 13.50	2 28.769		
	34222, Lalande	9.4	- -	36.2	50 22.80	3 35.498	+ 0 17.30	+ 36.624
	34229, Lalande	24.2	- -	51.0	50 37.60	2 28.810	+ 0 2.50	0.000
	Eunomia	27.0	- -	53.2	50 40.10	2 28.810		

RESULTS.

Corr. Chron. + 0 m. 18 s. 73

	α	δ
	h. m. s.	° ′ ″
(* 18) W.,	18 19 13.94	−22 29 54.89
34222, Lalande,	18 23 33.46	−22 23 34.94

Eunomia—(* 18) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 14 31.90	+ 1 14.83	+ 2 2.97
	Δt	+ .20	
	Δϱ	+ .01	+ .19
	p	+ .10	+ 3.21

Eunomia—34222, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 9 33.22	− 3 4.37	− 4 14.90
	Δt	− .50	
	Δϱ	− .01	− .38
	p	+ .10	+ 3.23

Corr. Chron. + 0 m. 10 s. 75

	α	δ
	h. m. s.	° ′ ″
34222. Lalande,	18 23 33.38	−22 23 35.00
34229, Lalande,	18 23 47.77	−22 14 11.18

Eunomia—34222, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 10 27.15	− 0 34.61	+ 6 0.58
	Δt	− .10	
	Δϱ	+ .02	+ .57
	p	+ .11	+ 3.15

Eunomia—34229, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 10 27.15	− 0 49.25	− 3 23.51
	Δt	− .13	
	Δϱ	− .03	− .32
	p	+ .11	+ 3.15

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δα	Δδ
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs
Sept. 25	34222, Lalande	5.3		34.0	7 54 18.15	3 35.525	+ 0 17.30	+ [illegible]
	34229, Lalande	19.0		46.0	54 32.50	2 28.698	+ 0 2.95	+ 0.204
	Eunomia	22.2		48.7	54 35.45	2 28.902		
	34222, Lalande	42.2			56 55.54	3 35.486	+ 0 16.96	+ [illegible]
	34229, Lalande	56.8		23.2	57 10.00	2 28.749	+ 0 2.50	+ 0.180
	Eunomia	59.0		26.0	57 12.50	2 28.569		
	34222, Lalande	0.7		27.6	8 0 14.15	3 35.523	+ 0 17.19	+ 36.877
	34229, Lalande	15.0		41.3	0 28.15	2 28.680	+ 0 3.19	+ 0.098
	Eunomia	18.2			0 31.34	2 28.582		
	34222, Lalande	7.3		34.2	2 20.75	3 35.338	+ 0 16.85	+ 36.715
	34229, Lalande	21.6		48.3	2 34.95	2 28.730	+ 0 2.65	+ 0.171
	Eunomia	24.2		51.0	2 37.60	2 28.559		
	34222, Lalande	37.7		3.5	4 50.35	3 35.241	+ 0 17.50	+ 36.771
	34229, Lalande	51.3		18.3	5 4.80	2 28.555	+ 0 3.05	+ 0.149
	Eunomia	54.7		21.0	5 7.85	2 28.406		
	34222, Lalande	44.2		10.5	6 57.35	3 35.322	+ 0 17.40	+ 37.033
	34229, Lalande	58.5		25.3	7 11.90	2 28.460	+ 0 2.85	+ 0.235
	Eunomia	1.4		28.1	7 14.75	2 28.225		
	34222, Lalande	42.5		9.5	8 56.00	3 35.203	+ 0 17.90	+ 36.943
	34229, Lalande	57.3		23.2	9 10.25	2 28.358	+ 0 3.65	+ 0.162
	Eunomia	0.8		27.0	9 13.90	2 28.196		
	34222, Lalande	42.2		9.5	11 55.85	3 35.228	+ 0 17.90	+ 37.013
	34229, Lalande	57.0		23.6	12 10.30	2 28.398	+ 0 3.45	+ 0.247
	Eunomia	0.5		27.0	12 13.75	2 28.151		
	34222, Lalande	11.4		38.3	14 24.85	3 35.060	+ 0 17.65	+ 36.826
	34229, Lalande	26.2		53.2	14 39.70	2 28.418	+ 0 2.85	+ 0.248
	Eunomia	29.0		56.0	14 42.50	2 28.170		
	34222, Lalande	32.8		59.6	16 46.20	3 35.101	+ 0 17.80	+ 36.901
	34229, Lalande	47.2		14.2	17 0.70	2 28.349	+ 0 3.30	+ 0.213
	Eunomia	51.0		17.0	17 4.00	2 28.136		
26	34222, Lalande	56.5	9.9	23.5	20 12 9.97	3 28.761	+ 1 10.83	+ 50.167
	34229, Lalande		24.2		12 24.16	2 21.849	+ 0 56.84	+ 13.319
	Eunomia	7.7		33.9	13 20.80	1 38.709		
	34222, Lalande	7.2		34.2	17 20.70	3 28.360	+ 1 9.86	+ 50.226
	Eunomia		30.6		18 30.56	1 38.249		
	34222, Lalande		17.5	30.7	19 17.44	3 28.285	+ 1 10.70	+ 50.214
	34229, Lalande	19.3	31.7		19 31.66	2 21.475	+ 0 56.48	+ 13.468
	Eunomia	15.3	27.5	41.6	20 28.14	1 38.186		
	34222, Lalande	36.9		3.2	21 50.06	3 28.259	+ 1 10.87	+ 50.304
	Eunomia	47.6			23 0.93	1 38.070		
	34222, Lalande		58.6		23 58.56	3 28.205	+ 1 12.09	+ 50.260
	34229, Lalande	0.1			24 13.39	2 21.372	+ 0 57.26	+ 13.491
	Eunomia	57.0	10.5	23.8	25 10.65	1 38.060		
	34222, Lalande		9.2	22.8	26 9.14	3 28.249	+ 1 11.53	+ 50.292
	34229, Lalande	10.4	23.7	37.1	26 23.76	2 21.507	+ 0 56.91	+ 13.614
	Eunomia	7.4	20.7	33.9	27 20.67	1 38.072		
	34222, Lalande	40.1	53.5	6.8	28 53.47	3 28.169	+ 1 10.95	+ 50.355
	34229, Lalande	54.4	7.6	21.4	29 7.80	2 21.359	+ 0 56.62	+ 13.609
	Eunomia	51.2	4.5		30 4.42	1 37.929		
26	34222, Lalande	13.2	26.2	40.0	8 23 26.47	3 28.139	+ 1 11.70	+ 50.673
	34229, Lalande	27.6	41.2	54.0	23 40.93	2 21.149	+ 0 57.24	+ 13.747
	Eunomia	24.9	38.1	51.5	24 38.17	1 37.581		

RESULTS.

Corr. Chron. + 0 m. s. 7.68

	α h. m. s.	δ ° ′ ″
34222 Lalande,	18 23 33.35	−22 23 35.01
34229. Lalande,	18 23 47.74	−22 14 11.19

Eunomia—34222, Lalande,

		Δα m. s.	Δδ ′ ″
M. T.	8 3 29.95	+ 0 17.42	+ 9 25.92
	Δt	+ .05	
	Δρ	+ .03	+ .87
	p	+ .10	+ 3.16

Eunomia—34229, Lalande,

		Δα m. s.	Δδ ′ ″
M. T.	8 3 29.95	+ 0 2.97	+ 0 1.92
	Δt	+ .01	
	Δρ	.00	.00
	p	+ .10	+ 3.15

Corr. Chron. + 0 m. s. 21.67

	α h. m. s.	δ ° ′ ″
34222, Lalande,	18 23 33.32	+22 23 35.03
34229, Lalande,	18 23 47.70	+22 14 11.20

Eunomia—34222, Lalande,

		Δα m. s.	Δδ ′ ″
Sid. T.	20 22 55.41	+ 1 10.98	+12 52.48
	Δρ	+ .04	+ 1.19
	p	+ .10	+ 3.12

Eunomia—34229, Lalande,

		Δα m. s.	Δδ ′ ″
Sid. T.	20 23 38.61	+ 0 56.82	+ 3 27.49
	Δρ	+ .01	+ .32
	p	+ .10	+ 3.12

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 26	34222, Lalande	19.2	32.0	45.7	8 25 32.30	3 27.792	+ 1 11.67	+ 50.366
	34229, Lalande	33.4	46.2	59.2	25 46.27	2 21.079	+ 0 57.70	+ 13.717
	Eunomia	30.9	44.0	57.0	26 43.97	1 37.541		
	34222, Lalande	27.5	39.0	52.0	27 39.50	3 27.841	+ 1 11.70	+ 50.484
	34229, Lalande	40.1	53.2	7.5	27 53.60	2 21.050	+ 0 57.60	+ 13.757
	Eunomia	38.0	51.0	4.6	28 51.20	1 37.472		
	34222, Lalande	36.1	49.2	2.0	29 49.10	3 27.961	+ 1 12.03	+ 50.665
	34229, Lalande	50.5	3.5	17.0	30 3.67	2 20.903	+ 0 57.46	+ 13.671
	Eunomia	48.1	1.3	14.0	31 1.13	1 37.411		
	34222, Lalande	19.2	32.0	. .	33 32.15	3 27.652	+ 1 11.88	+ 50.516
	34229, Lalande	33.5	46.5	0.0	33 46.60	2 20.840	+ 0 57.43	+ 13.768
	Eunomia	30.9	44.0	57.2	34 44.03	1 37.251		
	34222, Lalande	0.5	13.1	26.0	35 13.20	3 27.562	+ 1 11.96	+ 50.557
	34229, Lalande	14.5	27.5	40.9	35 27.63	2 20.789	+ 0 57.53	+ 13.848
	Eunomia	12.0	25.0	38.5	36 25.16	1 37.120		
	34222, Lalande	9.2	. .	36.0	38 22.60	3 27.520	+ 1 12.57	+ 50.567
	34229, Lalande	.	37.5	50.2	38 37.65	2 20.810	+ 0 57.52	+ 13.921
	Eunomia	22.0	35.0	48.5	39 35.17	1 37.068		
	34222, Lalande	29.1	42.0	55.1	40 42.07	3 27.475	+ 1 12.10	+ 50.755
	34229, Lalande	43.4	56.7	9.7	40 56.60	2 20.630	+ 0 57.57	+ 13.974
	Eunomia	41.0	54.0	7.5	41 54.17	1 36.835		
	34222, Lalande	3.4	16.3	29.7	43 16.47	3 27.351	+ 1 12.46	+ 50.735
	34229, Lalande	18.1	31.0	43.7	43 30.93	2 20.526	+ 0 58.00	+ 13.974
	Eunomia	15.7	29.0	42.0	44 28.93	1 36.731		
	34222, Lalande	36.2	49.0	3.0	45 49.40	3 27.189	+ 1 12.87	+ 50.626
	34229, Lalande	51.2	4.5	17.5	46 4.40	2 20.358	+ 0 57.87	+ 13.859
	Eunomia	49.0	2.3	15.5	47 2.27	1 36.678		
Oct. 3	(* 19) W.	27.2	40.0	53.3	8 19 40.17	2 42.892	+ 2 58.83	+ 10.304
	Eunomia	26.0	39.0	52.0	22 39.00	2 32.588		
	(* 19) W.	42.3	55.2	8.2	23 55.23	2 42.761	+ 2 58.77	+ 10.309
	Eunomia	41.0	54.0	7.0	26 54.00	2 32.452		
	(* 19) W.	19.4	32.4	46.0	29 32.60	2 42.641	+ 2 59.07	+ 10.491
	Eunomia	19.0	31.0	45.0	32 31.67	2 32.150		
	(* 19) W.	50.2	3.7	16.8	35 3.57	2 42.422	+ 2 59.48	+ 10.512
	Eunomia	. .	3.0	16.0	38 3.05	2 31.910		
	(* 19) W.	50.3	3.8	17.2	41 3.77	2 42.089	+ 2 59.20	+ 10.449
	Eunomia	49.7	3.0	16.0	44 2.97	2 31.640		
	(* 19) W.	59.5	. .	26.2	46 12.85	2 41.781	+ 2 59.48	+ 10.681
	Eunomia	59.5	12.4	25.1	49 12.33	2 31.100		
6	(* 20) W.	20.4	33.0	46.0	7 39 33.13	3 35.879	+ 2 57.03	+ 44.012
	Eunomia	17.0	30.0	43.5	42 30.16	1 51.982		
	(* 20) W.	57.2	10.2	23.0	46 10.13	3 35.599	+ 2 56.79	+ 44.022
	Eunomia	. .	7.0	20.0	49 6.92	1 51.692		
	(* 20) W.	19.5	33.0	46.0	52 32.83	3 35.432	+ 2 57.00	+ 44.210
	Eunomia	17.0	29.5	43.0	55 29.83	1 51.337		
	(* 20) W.	17.9	30.7	44.0	57 30.87	3 35.247	+ 2 57.23	+ 44.253
	Eunomia	15.0	28.3	41.0	8 0 28.10	1 51.109		
	(* 20) W.	49.6	3.0	16.2	5 2.93	3 54.959	+ 2 58 07	+ 44.235
	Eunomia	47.6	1.2	14.2	8 1.00	1 50.839		

RESULTS.

Corr. Chron. + 0 m. s. 4.71

	α	δ
	h. m. s.	° ′ ″
34222, Lalande,	18 23 33.32	−22 23 35.03
34229, Lalande,	18 23 47.70	−22 14 11.20

Eunomia—34222, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 35 37.13	+ 1 12.09	+12 57.61
	Δt +	.19	
	Δρ +	.06	+ 1.49
	p +	.13	+ 3.02

Eunomia—34229, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 35 37.13	+ 0 57.59	+ 3 32.47
	Δt +	.16	
	Δρ +	.02	+ .40
	p +	.13	+ 3.02

Corr. Chron. − 0 m. s. 16.80

	α	δ
	h. m. s.	° ′ ″
(* 19) W.,	18 28 36.03	−21 49 4.97

Eunomia—(* 19) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 35 17.04	+ 2 59.14	+ 2 40.74
	Δt +	.49	
	Δρ +	.02	+ .36
	p +	.14	+ 2.83

Corr. Chron. − 0 m. s. 25.79

	α	δ
	h. m. s.	° ′ ″
(* 20) W.,	18 31 47.86	−21 47 16.00

Eunomia—(* 20) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 54 41.41	+ 2 57.22	+11 18.51
	Δt +	.49	
	Δρ +	.04	+ 1.15
	p +	.11	+ 2.88

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 7	(* 20) W.	6.0	19.0	32.0	7 4 19.00	3 33.904	+ 4 1.67	+ 57.488
	Eunomia	7.0	21.0	34.0	8 20.67	1 36.531		
	(* 20) W.	21.3	34.6	48.2	12 34.70	3 33.618	+ 4 2.43	+ 57.601
	Eunomia	24.0	37.2	50.2	16 37.13	1 36.132		
	(* 20) W.	5.1	18.2	31.7	18 18.33	3 33.481	+ 4 1.67	+ 57.711
	Eunomia	7.0	-	33.0	22 20.00	1 35.885		
	(* 20) W.	59.0	12.0	25.0	25 12.00	3 33.403	+ 4 2.13	+ 57.735
	Eunomia	1.0	14.2	27.2	29 14.13	1 35.783		
8	(* 21) W.	53.7	7.0	20.0	7 26 6.90	3 27.109	+ 0 55.00	+ 6.017
	Eunomia	-	2.0	16.0	27 1.90	3 21.092		
	(* 21) W.	56.0	9.5	22.7	29 9.40	3 27.085	+ 0 56.23	+ 5.895
	Eunomia	52.9	5.0	19.0	30 5.63	3 21.190		
	(* 21) W.	13.3	26.1	39.3	30 26.23	3 27.072	+ 0 56.07	+ 5.911
	Eunomia	9.2	22.0	35.7	31 22.30	3 21.161		
	(* 21) W.	0.3	13.0	26.0	33 13.10	3 27.170	+ 0 56.16	+ 6.069
	Eunomia	56.0	9.3	22.5	34 9.26	3 21.101		
	(* 21) W.	44.2	57.0	10.3	34 57.17	3 26.945	+ 0 55.66	+ 5.979
	Eunomia	39.5	52.8	6.2	35 52.83	3 20.966		
	(* 21) W.	39.2	52.0	5.2	36 52.13	3 26.990	+ 0 55.80	+ 5.968
	Eunomia	34.5	48.0	1.3	37 47.93	3 21.022		
9	(* 21) W.	22.5	36.0	49.3	7 19 35.93	2 47.400	+ 2 3.07	+ 19.818
	Eunomia	26.0	39.0	52.0	21 39.00	2 27.582		
	(* 21) W.	18.5	31.3	44.2	23 31.33	2 47.360	+ 2 3.64	+ 19.491
	Eunomia	21.8	35.0	48.1	25 34.97	2 27.469		
	(* 21) W.	8.3	21.9	35.0	27 21.73	2 47.295	+ 2 3.67	+ 19.916
	Eunomia	12.0	25.0	39.0	29 25.40	2 27.379		
	(* 21) W.	46.5	59.5	13.0	30 59.67	2 47.182	+ 2 4.16	+ 19.941
	Eunomia	50.6	3.7	17.2	33 3.83	2 27.241		
	(* 21) W.	6.3	19.0	33.2	35 19.50	2 47.060	+ 2 4.40	+ 19.815
	Eunomia	10.2	24.0	37.5	37 23.90	2 27.245		
	(* 21) W.	36.2	49.6	3.0	39 49.60	2 46.951	+ 2 4.40	+ 20.014
	Eunomia	41.0	54.0	7.0	41 54.00	2 26.937		
10	(* 21) W.	15.3	28.3	42.0	7 10 28.53	3 36.930	+ 3 12.47	+ 26.111
	Eunomia	28.0	41.0	54.0	13 41.00	2 33.105		
	(* 21) W.	16.3	29.1	43.0	16 29.47	3 36.888	+ 3 12.43	+ 25.890
	Eunomia	28.7	42.0	55.0	19 41.90	2 32.842		
	(* 21) W.	35.2	48.7	1.2	21 48.37	3 36.805	+ 3 12.80	+ 25.863
	Eunomia	48.2	1.3	14.0	25 1.17	2 32.732		
	(* 21) W.	24.1	37.3	51.3	26 37.57	3 36.628	+ 3 13.33	+ 25.888
	Eunomia	37.5	51.2	4.0	29 50.90	2 32.580		
	(* 21) W.	37.4	51.2	4.2	30 50.93	3 36.580	+ 3 13.70	+ 25.768
	Eunomia	51.3	4.6	18 0	34 4.63	2 32.412		

RESULTS.

Corr. Chron. — 0 m. 28.78 s.

	α	δ
(* 20) W.,	18 h. 31 m. 47.83 s.	−21° 47′ 16.01″

Eunomia—(* 20) W.,

		Δα	Δδ
M. T.	7 h. 18 m. 39.20 s.	+ 4 m. 1.98 s.	+14′ 45.81″
	Δt	+ .66	
	Δρ	+ .04	+ 1.25
	p	+ .09	+ 2.95

Corr. Chron. — 0 m. 32.04 s.

	α	δ
(* 21) W.,	18 h. 36 m. 1.95 s.	−21° 30′ 22.24″

Eunomia (* 21) W.,

		Δα	Δδ
M. T.	7 h. 32 m. 11.27 s.	+ 0 m. 55.82 s.	+ 1′ 31.79″
	Δt	+ .15	
	Δρ	.00	+ .14
	p	+ .10	+ 2.90

Corr. Chron. — 0 m. 35.03 s.

	α	δ
(* 21) W.,	18 h. 36 m. 1.92 s.	−21° 30′ 22.26″

Eunomia—(* 21) W.,

		Δα	Δδ
M. T.	7 h. 30 m. 55.15 s.	+ 2 m. 3.89 s.	+ 5′ 4.82″
	Δt	+ .33	
	Δρ	+ .03	+ .68
	p	+ .14	+ 2.75

Corr. Chron. — 0 m. 37.64 s.

	α	δ
(* 21) W.,	18 h. 36 m. 1.90 s.	−21° 30′ 22.27″

Eunomia—(* 21) W.,

		Δα	Δδ
M. T.	7 h. 28 m. 33.69 s.	+ 3 m. 13.06 s.	+ 6′ 37.16″
	Δt	− .53	
	Δρ	+ .04	+ .90
	p	+ .14	+ 2.74

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 10	(* 21) W.	59.3	12.9	26.1	7 35 12.77	3 36.461	+ 3 12.90	+ 25.764	
	Eunomia	12.6	- -	38.7	38 25.67	2 32.289			
	(* 21) W.	7.1	20.2	33.6	40 20.30	3 36.232	+ 3 13.77	+ 25.602	
	Eunomia	20.8	34.0	47.2	43 34.07	2 31.898			
13	Eunomia	46.2	59.2	12.0	7 11 59.13	2 39.152			
	6461, B.A.C.	49.0	2.0	15.0	18 2.00	3 36.683	— 6 2.87	+ 27.467	Corr. Chron. — 0 m. 48.39 s.
	Eunomia	26.8	- -	53.0	24 39.90	2 38.808			a δ
	6461, B.A.C.	29.4	41.9	55.0	30 42.10	3 36.352	— 6 2.20	+ 27.480	6461, B.A.C., h. m. s. 18 48 51.60 — 21° 17′ 45″.98
	Eunomia	41.8	55.0	8.5	41 55.10	2 37.910			Eunomia—6461, B.A.C.,
	6461, B.A.C.	43.2	56.2	9.3	47 56.23	3 35.716	— 6 1.13	+ 27.742	△a △δ
	Eunomia	6.0	19.2	32.0	50 19.07	2 37.388			h. m. s. m. s. ′ ″
	6461, B.A.C.	7.1	19.5	33.0	56 19.87	3 35.345	— 6 0.80	+ 27.893	M. T. 7 41 22.48 — 6 1.40 + 7 6.91
	Eunomia	25.8	39.2	52.0	57 39.00	2 37.066			— .99
	6461, B.A.C.	27.2	40.2	53.2	8 3 40.20	3 35.123	— 6 1.20	+ 27.993	Δρ + .03 + .70
									p + .11 + 2.78
	Eunomia	19.5	33.0	46.5	6 33.00	2 36.496			
	6461, B.A.C.	19.8	33.0	47.0	12 33.26	3 34.641	— 6 0.20	+ 28.081	
15	Eunomia	- -	37.0	50.0	6 59 37.00	1 45.170			
	6461, B.A.C.	1.2	14.4	27.2	7 3 14.27	3 41.752	— 3 37.27	+ 56.697	Corr. Chron. — 0 m. 55.41 s.
	Eunomia	23.0	37.0	49.5	7 36.50	1 44.943			a δ
	6461, B.A.C.	0.3	13.3	26.5	11 13.37	3 41.562	— 3 36.87	+ 56.734	6461, B.A.C., h. m. s. 18 48 51.57 — 21° 17′ 46″.01
	Eunomia	- -	52.0	5.0	13 52.00	1 44.709			Eunomia—6461, B.A.C.,
	6461, B.A.C.	15.0	28.1	41.5	17 28.20	3 41.392	— 3 36.20	+ 56.798	△a △δ
	Eunomia	57.5	11.0	24.2	19 10.90	1 44.621			h. m. s. m. s. ′ ″
	6461, B.A.C.	34.2	47.5	1.0	22 47.57	3 41.329	— 3 36.67	+ 56.823	M. T. 7 13 6.27 — 3 36.58 + 14 32.80
									Δt — .59
	Eunomia	38.0	52.0	- -	29 52 00	1 43.982			Δρ + .04 + 1.27
	6461, B.A.C.	14.8	27.5	41.3	33 27.87	3 40.751	— 3 35.87	+ 56.884	p + .10 + 2.80
17	Eunomia	4.8	1.0	15.0	6 26 1.33	2 36.711			
	6454, B.A.C.	35.2	49.1	2.0	26 48.77	1 47.368	— 0 47.44	— 19.522	Corr. Chron. — 1 m. 2.53 s.
	Eunomia	37.0	49.7	- -	27 49.49	2 36.722			a δ
	6454, B.A.C.	24.3	37.6	50.3	28 37.40	1 47.353	— 0 47.91	— 19.548	6454, B.A.C., h. m. s. 18 48 30.43 — 20° 50′ 40″.45
	Eunomia	21.5	35.0	48.6	29 35.03	2 36.721			Eunomia—6454, B.A.C.,
	6454, B.A.C.	9.2	22.8	35.7	30 22.57	1 47.342	— 0 47.54	— 19.558	△a △δ
	Eunomia	2.1	15.7	28.6	31 15.47	2 36.682			h. m. s. m. s. ′ ″
	6454, B.A.C.	49.6	2.7	16.3	32 2.87	1 47.290	— 0 47.40	— 19.571	M. T. 6 41 53.86 — 0 46.65 — 4 58.25
									Δt — .13
	Eunomia	39.1	52.3	5.7	32 52.37	2 36.583			Δρ — .01 — .38
	6454, B.A.C.	26.5	39.5	52.6	33 39.53	1 47.303	— 0 47.16	— 19.459	p + .08 + 2.82
	Eunomia	17.5	30.5	43.7	34 30.57	2 36.539			
	6454, B.A.C.	4.3	17.8	31.0	35 17.70	1 47.285	— 0 47.13	— 19.433	
	Eunomia	50.8	4.6	17.8	36 4.40	2 36.580			
	6454, B.A.C.	38.1	51.6	4.3	36 51.33	1 47.275	— 0 46.93	— 19.484	
	Eunomia	36.0	49.1	2.5	37 49.20	2 36.501			
	6454, B.A.C.	22.9	36.0	49.1	38 36.00	1 47.259	— 0 46.80	— 19.421	
	Eunomia	17.2	30.0	43.7	39 30.30	2 36.450			
	6454, B.A.C.	4.5	17.0	30.5	40 17.33	1 47.169	— 0 47.03	— 19.460	

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 17	Eunomia	9.0	22.2	35.2	6 42 22.13	2 36.386			
	6454, B.A.C.	55.0	9.1	22.2	43 8.77	1 47.119	— 0 46.64	— 19.446	
	Eunomia	51.3	4.7	18.3	44 4.77	2 36.397			
	6454, B.A.C.	38.3	51.3	4.6	44 51.40	1 47.191	— 0 46.63	— 19.385	
	Eunomia	38.0	51.2	4.0	45 51.07	2 36.179			
	6454, B.A.C.	24.2	37.0	50 7	46 37.30	1 47.060	— 0 46.23	— 19.298	
	Eunomia	15.1	28.2	41.6	47 28.30	2 36.321			
	6454, B.A.C.	1.0	14.6	28.1	48 14.57	1 47.011	— 0 46.27	— 19.489	
	Eunomia	49.2	2.3	15.2	49 2.23	2 36.193			
	6454, B.A.C.	35.2	48.4	1.7	49 48.43	1 47.026	— 0 46.20	— 19.346	
	Eunomia	31.5	44.3	58.0	50 44.60	2 36.171			
	6454, B.A.C.	17.8	30.6	43.7	51 30.70	1 47.023	— 0 46.10	— 19.327	
	Eunomia	38.3	51.8	5.0	52 51.70	2 36.182			
	6454, B.A.C.	24.7	38.0	51.0	53 37.90	1 46.972	— 0 46.20	— 19.389	
	Eunomia	26.0	39.1	52.0	54 39.03	2 36.105			
	6454, B.A.C.	12.0	25.2	38.5	55 25.23	1 47.000	— 0 46.20	— 19.284	
	Eunomia	15.0	28.1	41.0	56 28.03	2 36.037			
	6454, B.A.C.	1.2	14.0	27.4	57 14.20	1 46.998	— 0 46.17	— 19.218	
	Eunomia	51.9	5.1	18.0	59 5.00	2 36.129			
	6454, B.A.C.	37.2	50.3	4.2	59 50.57	1 46.981	— 0 45.57	— 19.327	
	Eunomia	29.1	42.2	55.2	7 0 42.17	2 35.951			
	6454, B.A.C.	14.0	27.6	41.3	1 27.63	1 47.000	— 0 45.46	— 19.130	
19	6454, B.A.C.	17.3	30.5	43.2	6 13 30.33	2 51.105	+ 1 45.67	+ 10.526	
	Eunomia	3.0	16.0	29.0	15 16.00	2 40.579			
	6454, B.A.C.	52.2	5.0	18.0	19 5.07	2 51.109	+ 1 45 96	+ 10.669	
	Eunomia	38.1	51.0	4.0	20 51.03	2 40.440			
	6454, B.A.C.	24.8	37.9	51.0	22 37.90	2 49.712	+ 1 46.17	+ 10.651	
	Eunomia	11.0	23.9	37.3	24 24.07	2 39.061			
	6454, B.A.C.	18.3	31.3	44.6	25 31.40	2 49.781	+ 1 46.47	+ 10.746	
	Eunomia	4.7	18.0	30.9	27 17.87	2 39.035			
	6454, B.A.C.	56.3	9.0	22.4	28 9.23	2 49.729	+ 1 46.07	+ 10.851	
	Eunomia	42.3	54.9	8.7	29 55.30	2 38.878			
	6454, B.A.C.	32.0	45.0	58.0	31 45.00	2 49.710	+ 1 46.67	+ 10.738	
	Eunomia	18.5	31.5	45.0	33 31.67	2 38.972			
	6454, B.A.C.	11.3	24.2	37.6	36 24.37	2 49.709	+ 1 46.63	+ 10.829	
	Eunomia	58.0	11.0	24.0	38 11.00	2 38.880			
	6454, B.A.C.	56.2	9.4	23.4	39 9.67	2 49.732	+ 1 46.73	+ 11.001	
	Eunomia	43.0	56 5	9.7	40 56.40	2 38.731			
	6454, B.A.C.	20.4	33.6	46.7	42 33.57	2 49.591	+ 1 47.50	+ 10.876	
	Eunomia	8.0	21.0	34.2	44 21.07	2 38.715			
	6454, B.A.C.	43.4	57.1	9.7	45 56.73	2 49.576	+ 1 47.24	+ 10.845	
	Eunomia	31.0	43.9	57.0	47 43.97	2 38.731			
	6454, B.A.C.	35.5	48.7	1.7	48 48.63	2 49.629	+ 1 47.57	+ 10.970	
	Eunomia	23.0	36.1	49.5	50 36.20	2 38.719			
	6454, B.A.C.	13.7	27.0	40.3	51 27.00	2 49.691	+ 1 47.07	+ 10.993	
	Eunomia	1.2	14.0	27.0	53 14.07	2 38.698			

RESULTS.

Corr. Chron. — 1 m. 9.12 s.

	α	δ
	h. m. s.	° ′ ″
6454, B.A.C.,	18 48 30.40	—20 50 40.49

Eunomia—6454, B.A.C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 34 22.43	+ 1 46.65	+ 2 46.12
	Δt	+ .29	
	Δρ	+ .01	+ .21
	p	+ .08	+ 2.80

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 20	6454, B.A.C.	2.5	15.2	29.1	6 12 15.60	3 29.270	+ 3 3.40	+ 26.016
	Eunomia	6.0	19.0	32.0	15 19.00	2 33.190		
	6454, B.A.C.	10.5	23.4	35.8	17 23.23	3 29.111	+ 3 3.93	+ 26.085
	Eunomia	14.1	27.1	40.3	20 27.16	2 32.962		
	6454, B.A.C.	49.2	3.0	15.8	24 2.67	3 29.029	+ 3 4.30	+ 26.094
	Eunomia	53.5	7.1	20.3	27 6.97	2 32.871		
	6454, B.A.C.	14.7	28.1	41.5	31 28.10	3 28.969	+ 3 4.40	+ 26.245
	Eunomia	19.6	32.2	45.7	34 32.50	2 32.660		
	6454, B.A.C.	56.9	10.3	23.6	38 10.27	3 28.841	+ 3 4.08	+ 26.244
	Eunomia	- -	- -	27.5	41 14.35	2 32.533		
23	(* 22) W.	54.2	7.1	20.8	7 3 7.37	3 38.889	+ 1 43.63	+ 20.203
	Eunomia	38.0	51.0	4.0	4 51.00	2 48.619		
	(* 22) W.	25.5	38.1	51.3	6 38.30	3 38.781	+ 1 43.47	+ 20.265
	Eunomia	8.5	22.0	34.8	8 21.77	2 48.452		
	(* 22) W.	16.2	29.2	42.6	11 29.33	3 38.718	+ 1 43.67	+ 20.503
	Eunomia	0.0	13.0	26.0	13 13.00	2 48.151		
	(* 22) W.	14.1	27.0	40.0	14 27.03	3 38.712	+ 1 43.77	+ 20.636
	Eunomia	57.6	10.8	24.0	16 10.80	2 48.012		
	(* 22) W.	10.9	24.1	37.1	17 24.03	3 38.548	+ 1 43.37	+ 20.664
	Eunomia	54.7	7.5	21.0	19 7.40	2 47.820		
	(* 22) W.	51.5	4.0	18.1	21 4.53	3 38.191	+ 1 44.00	+ 20.619
	Eunomia	35.8	48.2	1.6	22 48.53	2 47.508		
	(* 22) W.	49.0	2.0	15.0	25 2.00	3 37.998	+ 1 44.20	+ 20.549
	Eunomia	33.0	46.0	- -	26 46.20	2 47.385		
	(* 22) W.	1.9	14.3	28.1	28 14.77	3 37.837	+ 1 44.36	+ 20.539
	Eunomia	46.1	59.0	12.3	29 59.13	2 47.234		
27	6550, B.A.C.	54.5	8.0	20.8	21 16 7.76	1 46.016	+ 0 4.52	— 51.269
	Eunomia	59.0	12.4	25.5	16 12.28	3 37.170		
	6550, B.A.C.	24.6	37.6	51.0	23 37.74	1 45.885	+ 0 4.82	— 51.262
	Eunomia	29.5	42.4	55.8	23 42.56	3 37.032		
	6550, B.A.C.	58.3	11.4	24.8	24 11.48	1 45.849	+ 0 5.04	— 51.177
	Eunomia	3.6	16.5	29.4	25 16.52	3 36.911		
	6550, B.A.C.	28.6	41.8	55.0	26 41.82	1 45.720	+ 0 5.20	— 51.263
	Eunomia	34.0	46.9	0.2	26 47.02	3 36.868		
	6550, B.A.C.	57.3	10.4	23.7	28 10.45	1 45.791	+ 0 5.35	— 51.109
	Eunomia	2.6	15.8	29.0	28 15.80	3 36.785		
	6550, B.A.C.	1.7	15.0	28.1	30 14.92	1 45.670	+ 0 5.39	— 51.005
	Eunomia	7.3	20.2	33.4	30 20.31	3 36.560		
	6550, B.A.C.	57.0	10.1	23.3	34 10.11	1 45.690	+ 0 5.71	— 51.025
	Eunomia	2.8	15.6	29.0	34 15.82	3 36.600		
	6550, B.A.C.	23.0	36.5	49.9	35 36.44	1 45.539	+ 0 5.65	— 51.006
	Eunomia	29.0	42.0	55.3	35 42.09	3 36.450		
	6550, B.A.C.	54.7	7.7	21.1	37 7.82	1 45.467	+ 0 5.99	— 50.978
	Eunomia	0.6	13.8	27.0	37 13.81	3 36.330		
	6550, B.A.C.	24.3	37.6	50.6	38 37.50	1 45.445	+ 0 6.07	— 50.905
	Eunomia	30.6	43.3	56.8	38 43.57	3 36.235		

RESULTS.

Corr. Chron. + 0 m. s. 47.12

	α	δ
	h. m. s.	° ′ ″
6454, B.A.C.,	18 48 30.38	—20 50 40.51

Eunomia—6454, B.A.C.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 28 31.12	+ 3 4.02	+ 6 41.72
	Δt	+ .50	
	Δϱ	+ .01	+ .50
	p	+ .07	+ 2.79

Corr. Chron. + 0 m. s. 34.38

	α	δ
	h. m. s.	° ′ ″
(* 22) W.,	18 53 53.27	—20 37 0.96

Eunomia—(* 22) W.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 18 14.11	+ 1 43.81	— 5 15.03
	Δt	+ .28	
	Δϱ	— .02	— .56
	p	+ .11	+ 2.66

Corr. Chron. + 0 m. s. 39.49

	α	δ
	h. m. s.	° ′ ″
6550, B.A.C.,	19 1 1.79	—20 1 57.41

Eunomia—6550, B.A.C.,

		△α	△δ
	h. m. s.	m. s.	′ ″
Sid. T.	21 32 51.10	+ 0 5.54	—13 5.28
	Δϱ	— .05	— 1.27
	p	+ .11	+ 2.58

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 27	6550, B.A.C.	45.7	59.0	12.2	21 43 58.99	1 45.165	+ 0 6.39	— 51.008
	Eunomia	52.3	5.4	18.5	44 5.38	3 36.058		
	6550, B.A.C.	24.6	38.3	50.9	45 37.91	1 44.990	+ 0 6.30	— 51.107
	Eunomia	31.1	48.1	57.4	45 44.21	3 35.982		
31	36087, Lalande	41.2	54.2	7.2	6 34 54.20	2 66.042	+ 0 7.17	+ 17.921
	Eunomia	48.5	1.3	14.3	35 1.37	2 48.121		
	36087, Lalande	28.3	41.0	54.0	35 41.10	2 66.018	+ 0 6.97	+ 18.176
	Eunomia	35.0	48.2	1.0	35 48.07	2 47.842		
	36087, Lalande	7.2	19.2	33.1	37 19.83	2 66.062	+ 0 7.24	+ 18.022
	Eunomia	14.2	27.0	40.0	37 27.07	2 48.040		
	36087, Lalande	43 6	54.9	8.7	39 55.40	2 65.975	+ 0 7.33	+ 17.966
	Eunomia	49.3	3.1	15.8	40 2.73	2 48.009		
	36087, Lalande	16.5	29.4	43.2	41 29.70	2 65.889	+ 0 7.07	+ 18.060
	Eunomia	23.6	37.1	49.6	41 36.77	2 47.829		
	36087, Lalande	7.2	19.2	33.0	44 19.80	2 66.011	+ 0 7.50	+ 18.180
	Eunomia	14.3	27.4	40.2	44 27.30	2 47.831		
31	36087, Lalande	3.5	16.7	29.7	21 29 16.63	2 65.782	+ 0 7.72	+ 17.970
	Eunomia	11.3	24.3	37.4	29 24.35	2 47.812		
	36087, Lalande	20.8	33.6	46.9	30 33.76	2 65.782	+ 0 7.87	+ 18.211
	Eunomia	28.7	41.4	54.9	30 41.63	2 47.571		
	36087, Lalande	9.6	22.7	35.8	31 22.69	2 65.705	+ 0 8.11	+ 18.143
	Eunomia	17.7	..	44.0	31 30.80	2 47.562		
	36087, Lalande	48.9	1.8	14.8	33 1.82	2 65.772	+ 0 8.26	+ 18.267
	Eunomia	57.0	10.0	23.3	33 10.08	2 47.505		
	36087, Lalande	9.7	22.8	35.9	34 22.80	2 65.742	+ 0 8.21	+ 18.264
	Eunomia	18.0	30.9	44.1	34 31.01	2 47.478		
	36087, Lalande	21.9	35.1	48.1	40 35.04	2 65.601	+ 0 8.53	+ 18.368
	Eunomia	30.4	43.5	56.8	40 43.57	2 47.233		
	36087, Lalande	57.0	10.0	23.2	42 10.04	2 65.468	+ 0 8.73	+ 18.320
	Eunomia	5.7	18.7	31.9	42 18.77	2 47.148		
	36087, Lalande	21.1	34.2	47 3	43 34.19	2 65.510	+ 0 8.69	+ 18.409
	Eunomia	29.7	42.9	56.0	43 42.88	2 47.101		
	36087, Lalande	35.1	48.3	1.2	44 48.17	2 65.422	+ 0 8.95	+ 18.401
	Eunomia	44.0	57.1	10.3	44 57.12	2 47.021		
	36087, Lalande	59.0	12.2	25.3	46 12.19	2 65.352	+ 0 8.77	+ 18.372
	Eunomia	7.9	21.0	34.0	46 20.96	2 46.978		
	36087, Lalande	31.1	44.3	37.3	47 44.23	2 65.318	+ 0 8.92	+ 18.453
	Eunomia	40.0	53.3	6.1	47 53.15	2 46.865		
	36087, Lalande	38.1	51.0	4.1	49 51.06	2 65.077	+ 0 9.00	+ 18.209
	Eunomia	46.9	0.1	13.1	50 0.06	2 46.868		
	36087, Lalande	56.4	9.6	22.6	51 9.52	2 65.221	+ 0 8.97	+ 18.470
	Eunomia	5.5	18.5	31.5	51 18.49	2 46.751		
	36087, Lalande	18.9	31.9	45.0	52 31.90	2 65.126	+ 0 9.21	+ 18.438
	Eunomia	28.0	41.0	54.3	52 41.11	2 46.688		
	36087, Lalande	40.5	53.4	6 6	53 53.51	2 65.062	+ 0 9.27	+ 18.461
	Eunomia	49.7	2.8	15.9	54 2.78	2 46.601		

RESULTS.

Corr. Chron. + 0 m. 41 s. 83

	α	δ
	h. m. s.	° ′ ″
36087, Lalande,	19 6 40.26	−21 2 14.27

Eunomia—36087, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 39 45.72	+ 0 7.21	+ 4 37.48
	Δt	.00	
	Δρ	+ .02	+ .42
	p	+ .10	+ 2.61

Corr. Chron. + 0 m. 40 s. 36

	α	δ
	h. m. s.	° ′ ″
36087, Lalande,	19 6 40.26	−21 2 14.27

Eunomia—36087, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	22 44 32.60	+ 0 8.71	+ 4 41.89
	Δρ	+ .07	+ 1.11
	p	+ .15	+ 2.39

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851 Oct. 31	36087, Lalande	9.5	22.7	35.8	21 55 22.67	2 65.173	+ 0 9.39	+ 18.504
	Eunomia	19.0	32.0	45.2	55 32.06	2 46.669		
	36087, Lalande	36.8	49.9	2.7	56 49.78	2 65.022	+ 0 9.53	+ 18.540
	Eunomia	46.3	59.1	12.9	56 59.31	2 46.482		
Nov. 1	36087, Lalande	23.1	36.0	49.1	7 42 36.07	3 39.332	+ 1 37.93	+ 36.459
	Eunomia	1.0	14.0	27.0	44 14.00	2 32.809		
	36087, Lalande	16.2	29.1	42.0	45 29.10	3 39.110	+ 1 38.27	+ 36.604
	Eunomia	54.6	7.2	20.3	47 7.37	2 32.442		
	36087, Lalande	28.1	41.4	54.8	48 41.43	3 38.880	+ 1 38.27	+ 36.651
	Eunomia	6.8	19.2	33.1	50 19.70	2 32.165		
	36087, Lalande	27.1	40.0	53.1	51 40.07	3 38.601	+ 1 38.20	+ 36.528
	Eunomia	5.0	18.5	31.3	53 18.27	2 32.009		
6	6616, B.A.C.	57.3	10.7	24.1	6 47 10.70	3 36.301	+ 2 47.37	+ 3.111
	Eunomia	45.2	58.0	11.0	49 58.07	3 33.190		
	6616, B.A.C.	16.0	29.1	42.0	52 29.03	3 36.310	+ 2 47.37	+ 3.459
	Eunomia	3.7	16.0	29.5	55 16.40	3 32.851		
	6616, B.A.C.	24.1	37.0	50.0	57 37.03	3 35.768	+ 2 47.84	+ 3.748
	Eunomia	11.5	25.1	38.0	7 0 24.87	3 32.020		
	6616, B.A.C.	33.2	45.7	58.7	2 45.87	3 35.510	+ 2 48.12	+ 3.460
	Eunomia	. .	34.0	47.0	5 33.99	3 32.050		
	6616, B.A.C.	54.0	7.6	19.8	8 7.13	3 35.230	+ 2 48.77	+ 3.317
	Eunomia	43.0	56.0	8.7	10 55.90	3 31.913		
	6616, B.A.C.	10.2	23.7	36.5	14 23.47	3 34.940	+ 2 48.93	+ 3.549
	Eunomia	59.2	12.5	25.5	17 12.40	3 31.391		
	6616, B.A.C.	28.1	41.6	54.3	19 41.33	3 34.498	+ 2 49.94	+ 3.698
	Eunomia	17.2	32.5	44.1	22 31.27	3 30.800		
	6616, B.A.C.	0.2	13.2	26.0	52 13.14	3 29.255	+ 2 50.85	+ 4.246
	Eunomia	52.0	4.0	- -	55 3.99	3 25.009		
	6616, B.A.C.	41.7	54.6	8.0	57 54.77	3 28.465	+ 2 51.30	+ 4.275
	Eunomia	33.2	46.0	59.0	8 0 46.07	3 24.190		
7	(* 23) W.	29.5	43.0	56.0	7 27 42.83	2 24.919	+ 0 52.20	— 16.690
	Eunomia	. .	35.0	47.5	28 35.03	2 41.609		
	(* 23) W.	18.5	. .	44.2	30 30.90	2 24.761	+ 0 52.27	— 16.592
	Eunomia	10.5	23.0	36.0	31 23.17	2 41.353		
	(* 23) W.	29.5	43.0	56.1	32 42.87	2 24.542	+ 0 52.20	— 16.703
	Eunomia	22.0	35.0	48.2	33 35.07	2 41.245		
	(* 23) W.	25.1	38.0	51.0	34 38.03	2 24.370	+ 0 52.44	— 16.582
	Eunomia	17.5	30.3	43.6	35 30.47	2 40.952		
	(* 23) W.	55.2	8.2	21.0	37 8.13	2 24.121	+ 0 52.00	— 16.498
	Eunomia	47.4	0.0	13.0	38 0.13	2 40.619		
	(* 23) W.	50.5	2.3	16.0	39 2.93	2 24.080	+ 0 52.20	— 16.489
	Eunomia	42.4	55.0	8.0	39 55.13	2 40.569		

RESULTS.

Nov. 1

m. s.
Corr. Chron. — 0 0.67

	a	δ
	h. m. s.	° ′ ″
36087, Lalande,	19 6 40.25	—21 2 14.30

Eunomia—36087, Lalande,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 48 44.16	+ 1 38.17	+ 9 21.91
	Δt	+ .26	
	Δϱ	+ .13	+ 2.21
	p	+ .14	+ 2.39

6

m. s.
Corr. Chron. — 0 21.30

	a	δ
	h. m. s.	° ′ ″
6616, B.A.C.,	19 12 54.08	—19 30 23.88

Eunomia—6616, B.A.C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 17 10.14	+ 2 48.94	+ 0 56.11
	Δt	+ .46	
	Δϱ	+ .01	+ .13
	p	+ .13	+ 2.37

7

m. s.
Corr. Chron. — 0 25.30

	a	δ
	h. m. s.	° ′ ″
(* 23) W.,	19 16 23.23	—19 20 19.80

Eunomia—(* 23) W.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 34 4.53	+ 0 52.22	— 4 15.01
	Δt	+ .14	
	Δϱ	— .04	— .66
	p	+ .13	+ 2.34

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 11	Eunomia	51.0	4.2	17.0	5 54 4.07	2 33.610			m. s.
	6707, B.A.C.	17.2	30.2	43.0	58 30.13	3 25.768	— 4 26.06	+ 22.094	Corr. Chron. — 0 47.25
	Eunomia	23.1	36.0	49.5	6 8 36.20	2 33.190			α δ
	6707, B.A.C.	- -	1.0	14.0	13 1.02	3 25.619	— 4 24.82	+ 22.365	h. m. s. ° ′ ″ 6707, B.A.C., 19 27 45.70 —19 10 31.13
	Eunomia	27.1	39.8	53.1	15 40.00	2 33.105			Eunomia—6707, B.A.C.,
	6707, B.A.C.	50.9	4.2	17.2	20 4.10	3 25.481	— 4 24.10	+ 22.312	Δα Δδ
	Eunomia	20.3	33.1	46.4	21 33.26	2 32.901			h. m. s. m. s. ′ ″
	6707, B.A.C.	44.3	58.0	10.3	25 57.33	3 25.410	— 4 24.07	+ 22.445	M. T. 6 18 27.20 — 4 24.28 + 5 45.23
	Eunomia	53.1	6.1	19.5	34 6.23	2 32.472			Δt — .72
	6707, B.A.C.	17.2	29.6	42.7	38 29.83	3 25.228	— 4 23.60	+ 22.692	Δρ + .02 + .47
	Eunomia	14.3	27.0	39.5	41 26.93	2 32.038			p + .09 + 2.46
	6707, B.A.C.	37.3	49.6	3.0	45 49.97	3 24.965	— 4 23.04	+ 22.863	
15	6710, B.A.C.	36.2	48.8	0.2	5 51 49.00	1 47.616	+ 1 11.40	— 40.132	m. s.
	Eunomia	48.0	0.2	13.0	53 0.40	2 57.569			Corr. Chron. — 1 8.13
	6710, B.A.C.	34.3	47.1	0.4	59 47.27	1 47.550	+ 1 12.16	— 39.901	α δ
	Eunomia	46.5	59.5	12.3	6 0 59.43	2 57.272			h. m. s. ° ′ ″ 6710, B.A.C., 19 28 25.36 —18 33 19.31
	6710, B.A.C.	1.3	14.0	26.8	2 14.03	1 47.460	+ 1 13.00	— 40.020	Eunomia—6710, B.A.C.,
	Eunomia	14.0	27.1	40.0	3 27.03	2 57.301			Δα Δδ
	6710, B.A.C.	58.2	11.3	24.2	4 11.23	1 47.660	+ 1 13.64	— 39.797	h. m. s. m. s. ′ ″
	Eunomia	12.0	24.6	38.0	5 24.87	2 57.278			M. T. 6 8 27.59 + 1 13.38 —10 13.25
	6710, B.A.C.	34.2	47.1	59.5	7 46.93	1 47.362	+ 1 13.17	— 39.996	Δt + .20
	Eunomia	47.0	0.3	13.0	9 0.10	2 57.179			Δρ — .03 — .81
	6710, B.A.C.	37.3	50.2	3.7	9 50.40	1 47.230	+ 1 13.73	— 39.899	p + .09 + 2.41
	Eunomia	51.2	4.2	17.0	11 4.13	2 56.950			
	6710, B.A.C.	53.9	6.3	19.5	12 6.57	1 47.035	+ 1 13.56	— 40.084	
	Eunomia	7.1	20.2	33.1	13 20.13	2 56.940			
	6710, B.A.C.	59.5	- -	26.0	15 12.75	1 47.050	+ 1 14.05	— 39.739	
	Eunomia	14.0	27.0	39.5	16 26.83	2 56.610			
	6910, B.A.C.	47.2	0.4	13.2	19 0.26	1 47.148	+ 1 14.84	— 39.741	
	Eunomia	2.0	15.1	28.2	20 15.10	2 56.710			
	6710, B.A.C.	31.7	45.0	- -	21 44.91	1 46.948	+ 1 14.22	— 39.693	
	Eunomia	46.2	59.2	12.0	22 59.13	2 56.462			
17	6710, B.A.C.	21.6	34.3	47.7	5 59 34.53	2 54.079	+ 4 24.27	+ 2.740	m. s.
	Eunomia	46.2	59.0	11.2	6 3 58.80	2 51.339			Corr. Chron. — 1 20.95
	6710, B.A.C.	10.9	23.1	36.1	6 23.37	2 53.940	+ 4 25.70	+ 2.831	α δ
	Eunomia	36.2	49.0	2.0	10 49.07	2 51.109			h. m. s. ° ′ ″ 6710, B.A.C., 19 28 25.35 —18 33 19.46
	6710, B.A.C.	56.0	9.0	22.1	13 9.03	2 53.831	+ 4 25.70	+ 2.992	Eunomia—6710, B.A.C.,
	Eunomia	22.0	35.0	47.2	17 34.73	2 50.839			Δα Δδ
	6710, B.A.C.	50.2	3.2	16.0	28 3.13	2 53.042	+ 4 25.96	+ 3.351	h. m. s. m. s. ′ ″
	Eunomia	- -	29.1	43.0	32 29.09	2 49.691			M. T. 6 19 31.39 + 4 25.79 + 0 46.76
	6710, B.A.C.	49.6	2.8	15.7	35 2.70	2 52.548	+ 4 27.33	+ 3.298	Δt + .73
	Eunomia	17.0	30.1	43.0	39 30.03	2 49.250			Δρ + .03 + 07
									p + .10 + 2.42

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 26	Eunomia	13.2	26.0	39.0	7 10 26.07	2 49.816		
	(* 24) W.	25.0	38.0	51.0	11 38.00	1 38.780	— 1 11.93	— 41.215
	Eunomia	23.0	36.0	49.0	16 36.00	2 49.071		
	(* 24) W.	34.5	47.1	0.4	17 47.33	1 38.040	— 1 11.33	— 41.210
	Eunomia	56.0	9.5	22.0	20 9.17	2 48.684		
	(* 24) W.	7.3	20.2	33.5	21 20.33	1 37.685	— 1 11.16	— 41.178
28	Eunomia	49.2	- -	- -	5 55 1.95	3 36.469		
	38140, Lalande	48.1	- -	14.0	57 1.05	2 25.179	— 1 59.10	— 41.226
	Eunomia	39.5	51.2	4.5	58 51.73	3 36.573		
	38140, Lalande	37.2	50.2	3.0	6 0 50.13	2 24.905	— 1 58.40	— 41.604
	Eunomia	- -	13.5	26.0	3 13.69	3 36.291		
	38140, Lalande	58.2	11.2	24.3	5 11.23	2 24.942	— 1 57.54	— 41.285
	Eunomia	41.0	53.2	7.2	7 53.80	3 35.985		
	38140, Lalande	39.2	51.7	4.7	9 51.87	2 24.895	— 1 58.07	— 41.026
	Eunomia	57.5	10.2	23.0	12 10.23	3 35.987		
	38140, Lalande	55.2	8.0	21.0	14 8.07	2 24.618	— 1 57.84	— 41.305
	Eunomia	51.0	3.4	16.5	16 3.63	3 35.712		
	38140, Lalande	47.9	1.0	14.0	18 0.97	2 24.632	— 1 57.34	— 41.016
	Eunomia	21.4	33.9	47.0	22 34.10	3 35.250		
	38140, Lalande	18.2	31.0	43.7	24 30.97	2 24.320	— 1 56.87	— 40.866
	Eunomia	37.0	49.5	3.0	26 49.83	3 35.211		
	38140, Lalande	33.5	- -	59.0	28 46.25	2 23.985	— 1 56.42	— 41.162
29	Eunomia	43.1	56.3	9.0	6 16 56.13	2 29.450		
	38140, Lalande	59.3	12.0	25.2	17 12.17	2 13.452	— 0 16.04	— 15.998
	Eunomia	34.2	47.1	0.0	18 47.10	2 29 310		
	38140, Lalande	50.0	3.2	16.0	19 3.07	2 13.331	— 0 15.97	— 15.979
	Eunomia	39.0	51.0	4.0	19 51.33	2 29.030		
	38140, Lalande	53.8	- -	20.0	20 6.90	2 13.159	— 0 15.57	— 15.871
	Eunomia	0.2	13.0	26.1	21 13.10	2 28.971		
	38140, Lalande	16.0	29.3	41.2	21 28.83	2 13.109	— 0 15.73	— 15.862
	Eunomia	53.2	6.1	19.0	25 6.10	2 28.675		
	38140, Lalande	9.2	22.0	34.6	25 21.93	2 13.050	— 0 15.83	— 15.625
	Eunomia	54.1	7.1	19.3	27 6.83	2 28.605		
	38140, Lalande	9.4	22.0	35.0	27 22.13	2 12.952	— 0 15.30	— 15.653
	Eunomia	39.2	52.0	5.0	28 52.07	2 28.310		
	38140, Lalande	55.0	8.0	20.0	29 7.67	2 12.721	— 0 15.60	— 15.589
	Eunomia	18.2	30.0	43.7	33 30.63	2 27.938		
	38140, Lalande	32.5	45.0	58.0	33 45.17	2 12.435	— 0 14.54	— 15.503
	Eunomia	14.2	27.0	40.3	35 27.16	2 27.719		
	38140, Lalande	29.2	42.5	54.7	35 42.13	2 12.130	— 0 14.97	— 15.589
	Eunomia	28.1	40.7	53.5	38 40.77	2 27.438		
	38140, Lalande	42.0	55.0	8.0	38 55.00	2 11.951	— 0 14.23	— 15.487

RESULTS.

m. s.
Corr. Chron. — 2 16.34

	α	δ
	h. m. s.	° ′ ″
(* 24) W.,	19 48 56.80	—17 28 33.16

Eunomia—(* 24) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 13 27.31	— 1 11.47	—10 33.24
	Δt —	.19	
	Δϱ —	.12	— .89
	p +	.13	+ 2.11

m. s.
Corr. Chron. — 2 27.24

	α	δ
	h. m. s.	° ′ ″
38140, Lalande,	19 53 0.60	—17 16 13 80

Eunomia—38140, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 7 52.63	— 1 57.70	—10 33.01
	Δt —	.32	
	Δϱ —	.04	— .92
	p +	.10	+ 2.25

m. s.
Corr. Chron. + 1 25.66

	α	δ
	h. m. s.	° ′ ″
38140, Lalande,	19 53 0.58	—17 16 13.84

Eunomia—38140, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 27 58.78	— 0 15.38	— 4 1.55
	Δt —	.04	
	Δϱ —	.02	— .43
	p +	.12	+ 2.20

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 1	38140, Lalande	56.2	9.1	21.7	5 43 9.00	2 49.659	+ 3 6.00	+ 34.777
	Eunomia	2.0	15.0	28.0	46 15.00	1 45.061		
	38140, Lalande	35.6	48.7	1.2	47 48.50	2 49.548	+ 3 5.63	+ 34.948
	Eunomia	41.2	54.0	7.2	50 54.13	1 44.779		
	38140, Lalande	48.2	0.0	13.6	52 0.60	2 49.498	+ 3 6.27	+ 35.168
	Eunomia	54.4	7.0	19.2	55 6.87	1 44.509		
	38140, Lalande	47.9	59.2	13.6	56 0.23	2 49.251	+ 3 6.80	+ 35.138
	Eunomia	54.0	7.0	..	59 7.03	1 44.292		
	38140, Lalande	7.2	19.2	32.9	6 0 19.83	2 49.114	+ 3 7.30	+ 35.215
	Eunomia	14.0	27.1	.	3 27.13	1 44.078		
	38140, Lalande	26.2	39.3	52.0	4 39.17	2 48.849	+ 3 7.33	+ 35.330
	Eunomia	34.0	..	59.0	7 46.50	1 43.698		
1	Eunomia	1.2	13.8	27.0	6 18 14.00	3 50.178		
	1483, Madrass	45.5	58.2	11.2	18 58.30	1 33.132	— 0 44.30	— 77.161
	Eunomia	35.5	48.2	1.2	19 48.30	3 46.465		
	1483, Madrass	19.2	32.0	45.0	20 32.07	1 29.586	— 0 43.67	— 76.994
	Eunomia	46.2	59.2	11.2	22 58.87	3 46.335		
	1483, Madrass	30.2	42.6	55.2	23 42.67	1 29.361	— 0 43.80	— 77.089
	Eunomia	57.2	10.2	23.0	31 10.13	3 45.525		
	1483, Madrass	40.6	53.2	6.0	31 53.27	1 28.778	— 0 43.14	— 76.862
	Eunomia	38.6	51.0	4.0	34 51.20	3 45.320		
	1483, Madrass	21.3	34.3	47.0	35 34.20	1 28.507	— 0 43.00	— 76.928
	Eunomia	16.5	29.0	42.0	37 29.16	3 44.798		
	1483, Madrass	59.1	12.0	25.0	38 12.03	1 28.095	— 0 42.87	— 76.818
	Eunomia	36.5	49.2	2.2	41 49.30	3 44.430		
	1483, Madrass	18.5	31.4	44.2	42 31.37	1 28.173	— 0 42.07	— 76.372
	Eunomia	6.0	18.7	30.5	43 18.40	3 44.361		
	1483, Madrass	47.9	0.2	13.2	44 0.43	1 27.799	— 0 42.03	— 76.677
	Eunomia	1.0	14.0	27.0	45 14.00	3 44.119		
	1483, Madrass	43.0	56.0	9.0	45 56.00	1 27.719	— 0 42.00	— 76.515
	Eunomia	23.3	35.0	48.0	47 35.33	3 43.800		
	1483, Madrass	4.0	17.1	30.0	48 17.03	1 27.378	— 0 41.70	— 76.537
14	39248, Lalande	19.2	31.2	44.0	6 15 31.47	2 39.458	+ 1 5.26	— 23.958
	Eunomia	24.0	37.0	49.2	16 36.73	4 37.532		
	39248, Lalande	47.1	59.2	12.5	17 59.60	2 39.336	+ 1 5.76	— 23.901
	Eunomia	53.0	5.0	18.0	19 5.33	4 37.353		
	39248, Lalande	57.2	9.2	22.0	21 9.47	2 39.141	+ 1 5.73	— 23.795
	Eunomia	2.6	15.0	28.0	22 15.20	4 37.052		
	39248, Lalande	17.2	30.2	43.0	22 30.13	2 39.001	+ 1 5.87	— 23.822
	Eunomia	23.0	36.0	49.0	23 36.00	4 36.939		
	39248, Lalande	29.2	42.0	55.0	24 42.07	2 38.878	+ 1 6.05	— 23.734
	Eunomia	36.0	48.0	..	25 48.12	4 36.728		
	39248, Lalande	57.8	11.0	23.8	27 10.87	2 38.748	+ 1 6.73	— 23.744
	Eunomia	5.0	17.6	29.6	28 17.60	4 36.608		

RESULTS.

Corr. Chron. + 1 m. 14.08 s.

	α	δ
	h. m. s.	° ′ ″
38140, Lalande,	19 53 0.56	−17 16 13.88

Eunomia—38140, Lalande,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	5 58 20.19	+ 3 6.56	+ 8 59.41
	Δt	+ .51	
	Δϱ	+ .03	+ .78
	p	+ .10	+ 2.22

Corr. Chron. + 1 m. 14.16 s.

	α	δ
	h. m. s.	° ′ ″
1483, Madrass,	19 56 54.06	−16 47 21.16

Eunomia—1483, Madrass,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	6 35 29.03	− 0 42.86	−19 40.31
	Δt	− .12	
	Δϱ	− .12	− 2.33
	p	+ .12	+ 2.15

Corr. Chron. − 0 m. 7.46 s.

	α	δ
	h. m. s.	° ′ ″
39248, Lalande,	20 27 24.17	−15 27 34.13

Eunomia—39248, Lalande,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 33 16.70	+ 1 6.72	− 6 1.98
	Δt	+ .18	
	Δϱ	− .28	− 3.92
	p	+ .14	+ 1.92

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Dec. 14	39248, Lalande	53.7	6.0	19.2	6 32 6.30	2 38.328	+ 1 7.20	— 23.608
	Eunomia	1.5	13.0	26.0	33 13.50	4 36.052		
	39248, Lalande	15.0	28.2	40.6	34 27.93	2 38.110	+ 1 6.90	— 23.525
	Eunomia	22.0	35.0	47.5	35 34.83	4 35.751		
	39248, Lalande	37.2	49.6	2.0	36 49.60	2 37.678	+ 1 7.17	— 23.478
	Eunomia	44.1	57.0	9.2	37 56.77	4 35.272		
	39248, Lalande	10.2	22.9	35.2	39 22.77	2 37.604	+ 1 7.03	— 23.309
	Eunomia	17.2	30.2	42.0	40 29.80	4 35.029		
	39248, Lalande	46.2	59.0	11.2	41 58.80	2 37.241	+ 1 7.00	— 23.141
	Eunomia	53.0	6.0	. .	42 5.80	4 34.498		
	39248, Lalande	13.8	26.2	39.0	44 26.33	2 36.918	+ 1 7.54	— 23.266
	Eunomia	21.5	34.1	46.0	45 33.87	4 34.300		
	39248, Lalande	15.0	28.0	41.2	46 28.06	2 36.490	+ 1 7.94	— 23.242
	Eunomia	23.2	36.2	.	47 36.00	4 33.848		
	39248, Lalande	8.0	21.2	33.0	48 20.73	2 36.158	+ 1 7.97	— 23.204
	Eunomia	16.0	29.1	41.0	49 28.70	4 33.478		
17	Eunomia	16.1	28.1	41.0	6 18 28.40	4 41.210		
	Weisse XX, 664	33.5	45.6	58.0	20 45.70	1 31.849	— 2 17.30	— 52.358
	Eunomia	21.0	33.0	46.0	22 33.33	4 40.550		
	Weisse XX, 664	38.1	49.3	3.0	24 50.13	1 31.629	— 2 16.80	— 51.918
	Eunomia	16.3	29.2	42.0	26 29.16	4 40.130		
	Weisse XX, 664	33.5	45.0	58.0	28 45.50	1 31.105	— 2 16.34	— 52.022
	Eunomia	13.3	26.0	38.0	30 25.77	4 39.762		
	Weisse XX, 664	29.0	42.0	54.5	32 41.83	1 30.849	— 2 16.06	— 51.910
	Eunomia	4.4	17.0	. .	35 17.19	4 39.215		
	Weisse XX, 664	19.5	32.2	45.0	37 32.23	1 30.382	— 2 15.04	— 51.830
	Eunomia	2.0	14.0	27.0	39 14.33	4 38.531		
	Weisse XX, 664	17.0	29.5	42.2	41 29.57	1 29.900	— 2 15.24	— 51.628
18	Eunomia	13.1	25.3	38.0	6 9 25.47	4 32.931		
	Weisse XX, 664	43.0	56.2	9.0	9 56.07	2 37.542	— 0 30.60	— 21.273
	Eunomia	24.2	37.0	49.5	10 36.90	4 32.551		
	Weisse XX, 664	. .	7.5	20.0	11 7.48	2 37.312	— 0 30.58	— 21.123
	Eunomia	59.0	11.2	24.2	12 11.47	4 32.559		
	Weisse XX, 664	29.1	42.0	54.0	12 41.70	2 37.200	— 0 30.23	— 21.243
	Eunomia	36.0	48.5	1.2	13 48.57	4 32.400		
	Weisse XX, 664	7.0	19.2	32.0	14 19.40	2 37.249	— 0 30.83	— 21.035
	Eunomia	9.1	22.0	34.2	15 21.77	4 32.261		
	Weisse XX, 664	38.7	52.5	5.0	15 52.07	2 36.933	— 0 30.30	— 21.212
	Eunomia	48.5	1.7	14.0	16 1.40	4 32.115		
	Weisse XX, 664	19.2	31.7	44.2	16 31.70	2 37.012	— 0 30.30	— 20.987
	Eunomia	14.0	26.2	38.7	19 26.30	4 31.746		
	Weisse XX, 664	. .	56.0	8.7	19 55.95	2 36.512	— 0 29.65	— 21.118
	Eunomia	54.0	6.0	. .	21 5.94	4 31.392		
	Weisse XX, 664	23.0	35.7	48.4	21 35.70	2 36.229	— 0 29.76	— 21.047

RESULTS.

m. s.
Corr. Chron. — 0 13.54

	α	δ
	h. m. s.	° ′ ″
Weisse XX, 664,	20 26 26.88	—14 56 46.74

Eunomia—Weisse XX, 664,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 28 31.16	— 2 16.13	—13 18.37
	Δt	— .37	
	Δρ	— .12	— 1.99
	μ	+ .13	+ 2.00

m. s.
Corr. Chron. — 0 10.34

	α	δ
	h. m. s.	° ′ ″
Weisse XX, 664,	20 26 26.88	—14 56 46.79

Eunomia—Weisse XX, 664,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 22 13.35	— 0 29.77	— 5 21.72
	Δt	— .08	
	Δρ	+ .04	— .75
	μ	+ .12	+ 2.01

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 18	Eunomia	28.1	41.0	53.0	6 22 40.70	4 31 255		
	Weisse XX, 664	57.5	10 5	23.0	23 10.33	2 36.279	— 0 29.63	— 20.860
	Eunomia	59.0	11.5	. .	26 11.43	4 30.852		
	Weisse XX, 664	. .	41.0	53.5	26 40.93	2 35.940	— 0 29.50	— 20.796
	Eunomia	42.0	54.5	7.0	27 54.50	4 30.690		
	Weisse XX, 664	12.5	24.0	36.0	28 24.16	2 35.752	— 0 29.66	— 20.822
	Eunomia	8.0	21.0	33.0	29 20.67	4 30.502		
	Weisse XX, 664	37.5	49 5	2.3	29 49.77	2 35.589	— 0 29.10	— 20.797
	Eunomia	0.0	12.0	25.0	31 12.33	4 30.152		
	Weisse XX, 664	29.0	41.5	54.0	31 41.50	2 35.239	— 0 29.17	— 20.797
	Eunomia	31.0	43.0	56.0	32 43.33	4 30.026		
	Weisse XX, 664	59.5	12.0	25.0	33 12.50	2 35.281	— 0 29.17	— 20.629
	Eunomia	14.2	. .	39.0	35 26.60	4 29.500		
	Weisse XX, 664	43.2	55.2	8.5	35 55.63	2 34.838	— 0 29.03	— 20.546
	Eunomia	19.2	. .	44.0	37 31.60	4 29.289		
	Weisse XX, 664	48.0	0.2	13.2	38 0.47	2 34.542	— 0 28.87	— 20.631
19	Weisse XX, 664	20.8	33.0	45.7	5 56 33.17	4 42.471	+ 1 15.70	+ 10.121
	Eunomia	36 0	49.1	1.5	57 48.87	4 32.350		
	Weisse XX, 664	48.2	1.0	13.4	6 0 0.87	4 42.179	+ 1 15.80	+ 10.379
	Eunomia	4.0	17.0	29.0	1 16.67	4 31.800		
	Weisse XX, 664	2.2	14.4	27.1	2 14.57	4 42.026	+ 1 15.73	+ 10.262
	Eunomia	17.9	30.0	43.0	3 30.30	4 31.764		
	Weisse XX, 664	25.2	37.6	50.1	4 37.63	4 41.931	+ 1 16.57	+ 10.530
	Eunomia	41.8	54.0	6.8	5 54.20	4 31.401		
	Weisse XX, 664	59.2	12.0	24.2	8 11.80	4 41.780	+ 1 16.83	+ 10.585
	Eunomia	16.2	28.7	41.0	9 28.63	4 31.195		
	Weisse XX, 664	45.0	58.0	10.2	10 57.40	4 41.505	+ 1 17.00	+ 10.635
	Eunomia	2.0	14.2	27.0	12 14.40	4 30.870		
	Weisse XX, 664	10.3	23.0	35.8	13 23.03	4 41.205	+ 1 16.64	+ 10.627
	Eunomia	27.4	39.7	51.9	14 39.67	4 30.578		
	Weisse XX, 664	34.7	47.1	59.7	15 47.17	4 41.145	+ 1 17.20	+ 10.877
	Eunomia	52.1	4.0	17.0	17 4.37	4 30.268		
	Weisse XX, 664	34.2	47.0	59.1	19 46.77	4 40.571	+ 1 17.56	+ 10.791
	Eunomia	52.0	4.0	17.0	21 4.33	4 29.786		
	Weisse XX, 664	22.3	35.1	47.7	22 35.03	4 40.426	+ 1 17.50	+ 10.926
	Eunomia	40.0	52.6	5.0	23 52.53	4 29.500		
	Weisse XX, 664	53.6	6.2	19.1	25 6.30	4 40.111	+ 1 17.60	+ 10.963
	Eunomia	11.0	24.2	36.5	26 23.90	4 29.148		
	Weisse XX, 664	21.0	33.0	46.6	27 33.53	4 39.660	+ 1 17.60	+ 10.748
	Eunomia	38.7	51.0	3.7	28 51.13	4 28.912		
	Weisse XX, 664	48.6	1.7	14.4	30 1.57	4 39.561	+ 1 17.76	+ 11.173
	Eunomia	7.0	19.0	32.0	31 19.33	4 28.388		
	Weisse XX, 664	28.6	41.0	54.1	32 41.23	4 38.929	+ 1 18.00	+ 11.127
	Eunomia	47.0	59.1	11.6	33 59.23	4 27.802		
	Weisse XX, 664	13.2	25.4	38.0	37 25.53	4 38.258	+ 1 18.64	+ 11.099
	Eunomia	32.0	44.5	56.0	38 44.17	4 27.159		

RESULTS.

m. s.
Corr. Chron. — 0 7.70

	α	δ
	h. m. s.	° ′ ″
Weisse XX, 664,	20 26 25.87	—14 56 46.84

Eunomia—Weisse XX, 664,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	5 17 37.08	+ 1 17.08	+ 2 44.81
		Δt + .21	
		Δρ + .01	+ .20
		p + .10	+ 2.10

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 23	Weisse XX, 860	22.0	34.0	47.0	5 48 34.33	4 44.265	+ 1 21.00	+ 18.732
	Eunomia	43.0	55.0	8.0	49 55.33	3 38.439		
	Weisse XX, 860	21.8	34.0	46.2	55 34.00	4 43.688	+ 1 21.33	+ 18.822
	Eunomia	43.0	55.0	8.0	56 55.33	3 37.772		
	Weisse XX, 860	36.2	49.1	1.0	59 48.77	4 43.731	+ 1 21.73	+ 18.915
	Eunomia	58.0	- -	23.0	6 1 10.50	3 37.722		
	Weisse XX, 860	21.9	34.5	47.0	3 34.47	4 43.275	+ 1 21.93	+ 19.018
	Eunomia	44.0	56.2	9.0	4 56.40	3 37.163		
	Weisse XX, 860	56.0	8.3	21.2	6 8.50	4 43.116	+ 1 22.33	+ 18.883
	Eunomia	18.3	31.0	43.2	7 30.83	3 37.139		
	Weisse XX, 860	44.1	56.5	9.0	9 56.53	4 42.832	+ 1 22.47	+ 18.786
	Eunomia	6.5	19.0	31.5	11 19.00	3 36.952		
	Weisse XX, 860	20.2	32.7	44.6	12 32.50	4 42.602	+ 1 22.67	+ 18.948
	Eunomia	43.0	55.5	8.0	13 55.17	3 36.560		
	Weisse XX, 860	20.0	32.5	45.1	15 32.53	4 42.402	+ 1 22.70	+ 19.280
	Eunomia	43.0	55.0	7.7	16 55.23	3 36.028		
	Weisse XX, 860	23.0	35.0	- -	18 35.04	4 41.895	+ 1 23.43	+ 19.148
	Eunomia	46.2	58.2	11.0	19 58.47	3 35.653		
	Weisse XX, 860	8.2	20.0	33.2	22 20.47	4 41.535	+ 1 23.30	+ 19.376
	Eunomia	31.3	44.0	56.0	23 43.77	3 35.065		
	Weisse XX, 860	7.1	19.5	31.7	25 19.43	4 40.975	+ 1 23.57	+ 19.383
	Eunomia	30.5	43.0	55.5	26 43.00	3 34.498		
	Weisse XX, 860	10.5	22.9	35.6	28 23.00	4 40.618	+ 1 23.73	+ 19.279
	Eunomia	34.2	47.0	59.0	29 46.73	3 34.245		
26	Eunomia	43.0	- -	7.5	5 49 55.25	1 44.030		
	Weisse XX, 1031	- -	56.0	- -	49 56.00	4 40.080	− 0 0.75	+ 39.047
	Eunomia	33.5	- -	58.5	52 46.00	1 43.875		
	Weisse XX, 1031	- -	46.2	- -	52 46.20	4 39.905	− 0 0.20	+ 39.027
	Eunomia	33.1	- -	58.2	54 45.65	1 43.759		
	Weisse XX, 1031	- -	46.0	- -	54 46.00	4 39.802	− 0 0.35	+ 39.040
	Eunomia	18.2	- -	43.1	57 30.65	1 43.448		
	Weisse XX, 1031	- -	31.3	- -	57 31.30	4 39.686	− 0 0.65	+ 39.235
	Eunomia	19.0	- -	44.0	59 31.50	1 43.248		
	Weisse XX, 1031	- -	31.0	- -	59 31.00	4 39.395	+ 0 0.50	+ 39.144
	Eunomia	3.0	- -	27.3	6 1 15.15	1 42.965		
	Weisse XX, 1031	- -	15.0	- -	1 15.00	4 39.315	+ 0 0.15	+ 39.347
	Eunomia	51.3	- -	16.5	4 3.90	1 42.942		
	Weisse XX, 1031	- -	3.5	- -	4 3.50	4 39.168	+ 0 0.40	+ 39 223
	Eunomia	40.2	- -	5.0	4 52.60	1 42.718		
	Weisse XX, 1031	- -	52.0	- -	4 52.00	4 39.008	+ 0 0.60	+ 39.287
	Eunomia	3.1	- -	28.1	7 15.65	1 42.455		
	Weisse XX, 1031	- -	14.0	- -	7 14.00	4 38.638	+ 0 1.65	+ 39.180
	Eunomia	29.4	- -	54.0	10 41.70	1 42.058		
	Weisse XX, 1031	- -	40.9	- -	10 40.90	4 38.583	+ 0 0.80	+ 39.522
	Eunomia	12.3	- -	37.2	12 24.75	1 41.962		
	Weisse XX, 1031	- -	24.3	- -	12 24.30	4 38.330	+ 0 0.45	+ 39.365

RESULTS.

Corr. Chron. + 0 m. 0.02 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XX, 860,	20 33 33.29	−14 25 42.47

Eunomia—Weisse XX, 860,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 11 54.16	+ 1 22.52	+ 4 52.76
	Δt	+ .22	
	Δρ	− .04	+ .65
	p	+ .12	+ 1.97

Corr. Chron. − 0 m. 4.75 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XX, 1031,	20 40 20.90	−14 5 3.80

Eunomia—Weisse XX, 1031,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 7 25.91	+ 0 0.70	+10 5.38
	Δt	.00	
	Δρ	+ .08	+ 1.30
	p	+ .12	+ 1.96

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 26	Eunomia - - - -	28. 3	- -	53. 8	6 15 41. 05	1 41. 398			
	Weisse XX, 1031 -	- -	39. 5	- -	15 39. 50	4 38. 005	+ 0 1. 55	+ 39. 604	
	Eunomia - - - -	24. 4	- -	49. 6	18 37. 00	1 41. 035			
	Weisse XX, 1031 -	- -	35. 3	-	18 35. 30	4 37. 679	+ 0 1. 70	+ 39. 641	
	Eunomia - - - -	49. 0	-	14. 1	21 1. 55	1 40. 475			
	Weisse XX, 1031 -	- -	59. 7	.	20 59. 70	4 37. 312	+ 0 1. 85	+ 39. 834	
	Eunomia - - - -	47. 3	- -	11. 7	23 59. 50	1 40. 073			
	Weisse XX, 1031 -	- -	57. 8	- -	23 57. 80	4 37. 112	+ 0 1. 70	+ 40. 036	
	Eunomia - - -	36. 2	- -	1. 0	25 48. 60	1 39. 937			
	Weisse XX, 1031 -	- -	46. 8	- -	25 46. 80	4 36. 618	+ 0 1. 80	+ 39. 678	

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1851.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 26	B. Z., 502, 106	46.0	59.0	12.0	13 49 59.00	1 46.872	+ 1 32.33	— 0.778
	Egeria	18.0	31.0	45.0	51 31.33	1 47.650		
	B. Z., 502, 106	0.1	13.5	27.0	55 13.53	1 47.239	+ 1 32.47	— 0.593
	Egeria	33.0	46.0	59.0	56 46.00	1 47.832		
	B. Z., 502, 106	0.1	13.5	27.0	14 3 13.53	1 47.401	+ 1 32.64	— 0.551
	Egeria	33.0	46.5	59.0	4 46.17	1 47.952		
28	Egeria	15.0	28.7	41.0	15 20 28.23	2 43.945		
	B. Z., 496, 73	- -	- -	23.0	21 10.00	3 38.630	— 0 41.77	+ 24.621
	B. Z., 496, 75	5.0	18.2	31.0	23 18.07	2 35.210	— 2 49.84	— 8.735
	3990, B.A.C.	- -	50.0	3.0	23 50.00	1 21.631	— 3 21.77	— 52.493
	Egeria	47.0	0.0	13.0	26 0.00	2 43.921		
	B. Z., 496, 73	28.0	41.0	54.0	26 41.00	3 38.620	— 0 41.00	+ 24.636
	B. Z., 496, 75	36.2	49.1	2.0	28 49.10	2 35.121	— 2 49.10	— 8.800
	3990, B.A.C.	-	21.0	34.0	29 21.00	1 21.580	— 3 21.00	— 52.520
	Egeria	27.9	41.5	54.0	33 41.13	2 43.491		
	B. Z., 496, 73	9.0	22.0	35.5	34 22.17	3 38.332	— 0 41.04	+ 24.777
	B. Z., 496, 75	17.0	29.2	-	36 29.37	2 34.871	— 2 48.24	— 8.620
	3990, B.A.C.	49.1	2.0	15.4	37 2.17	1 21.324	— 3 21.04	— 52.346
	Egeria	48.3	1.3	14.0	39 1.20	2 43.452		
	B. Z., 496, 73	- -	42.0	55.2	39 41.97	3 38.256	— 0 40.77	+ 24.740
	B. Z., 496, 75	36.1	49.2	-	41 49.17	2 34.991	— 2 47.97	— 8.461
	3990, B.A.C.	8.3	21.3	35.0	42 21.53	1 21.455	— 3 20.33	— 52.176
	Egeria	42.5	- -	9.0	44 55.75	2 43.578		
	B. Z., 496, 73	22.0	36.2	49.0	45 35.73	3 38.525	— 0 39.98	+ 24.883
	B. Z., 496, 75	30.3	43.0	- -	47 42.97	2 34.791	— 2 47.22	— 8.788
	3990, B.A.C.	2.0	15.4	29.0	48 15.47	1 21.518	— 3 19.72	— 52.239
	Egeria	27.1	40.3	53.5	50 40.20	2 43.821		
	B. Z., 496, 73	7.0	19.7	33.0	51 19.90	3 38.595	— 0 39.70	+ 24.710
	B. Z., 496, 75	15.2	28.1	- -	53 28.07	2 34.953	— 2 47.87	— 8.868
	3990, B.A.C.	47.0	0.0	13.0	54 0.00	1 21.540	— 3 19.80	— 52.460
Dec. 1	B. Z., 496, 73	8.5	21.4	35.0	13 49 21.63	2 44.866	+ 3 19.87	— 17.221
	B. Z., 496, 75	16.0	29.2	43.0	51 29.40	1 41.782	+ 1 12.10	— 50.484
	Egeria	28.0	41.5	55.0	52 41.50	3 32.151		
	B. Z., 496, 73	21.9	35.5	49.1	54 35.50	2 44.900	+ 3 20.00	— 17.237
	B. Z., 496, 75	30.2	44.0	57.0	56 43.73	1 41.910	+ 1 11.77	— 50.406
	Egeria	42.0	55.5	9.0	57 55.50	3 32.201		
	B. Z., 496, 73	33.1	47.2	0.0	14 0 46.73	2 45.118	+ 3 20.80	— 17.249
	B. Z., 496, 75	41.6	54.6	8.3	2 54.83	1 42.158	+ 1 12.70	— 50.388
	Egeria	54.1	7.5	21.0	4 7.53	3 32.431		
	B. Z., 496, 73	39.5	52.5	6.2	5 52.73	2 45.311	+ 3 21.34	— 17.063
	B. Z., 496, 75	48.1	1.3	14.4	8 1.27	1 42.225	+ 1 12.80	— 50.328
	Egeria	1.2	14.0	27.0	9 14.07	3 32.438		
	B. Z., 496, 73	24.2	37.0	50.5	11 37.23	2 45.229	+ 3 20.87	— 17.508
	B. Z., 496, 75	32.0	45.0	58.5	13 45.17	1 42.279	+ 1 12.93	— 50.637
	Egeria	45.0	58.0	11.3	14 58.10	3 32.801		
	B. Z., 496, 73	48.1	1.3	15.2	18 1.53	2 45.451	+ 3 21.84	— 17.375
	B. Z., 496, 75	56.6	10.0	23.5	20 10.03	1 42.459	+ 1 13.34	— 50.546
	Egeria	10.2	23.4	36.5	21 23.37	3 32.890		
	B. Z., 496, 73	49.1	2.0	15.1	34 2.07	2 45.562	+ 3 22.50	— 17.632
	B. Z., 496, 75	57.6	10.2	23.3	36 10.37	1 42.650	+ 1 14.20	— 50.723
	Egeria	12.0	24.7	38.0	37 24.57	3 33.258		

RESULTS.

Corr. Chron. — 2 18.30 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 502, 106,	11 30 43.15	+20 55 14.94

Egeria—B. Z., 502, 106,

		Δα (m. s.)	Δδ (′ ″)
M. T.	13 55 22.87	+ 1 32.48	— 0 9.85
	Δt	+ .25	
	Δρ	.00	— .01
	p	— .22	+ 2.10

Corr. Chron. — 2 31.46 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 496, 73,	11 37 38.41	+20 42 49.90
B. Z., 496, 75,	11 39 46.43	+20 51 22.07
3990, B.A.C.,	11 40 18.76	+21 2 33.57

Egeria—B. Z., 496, 73,

		Δα (m. s.)	Δδ (′ ″)
M. T.	15 33 16.29	— 0 40.71	+ 6 20.06
	Δt	— .11	
	Δρ	.00	+ .15
	p	— .16	+ 1.54

Egeria—B. Z., 496, 75,

		Δα (m. s.)	Δδ (′ ″)
M. T.	15 33 16.29	— 2 48.37	— 2 13.90
	Δt	— .46	
	Δρ	.00	— .05
	p	— .16	+ 1.54

Egeria—3990, B.A.C.,

		Δα (m. s.)	Δδ (′ ″)
M. T.	15 33 16.29	— 3 20.61	—13 24.94
	Δt	— .56	
	Δρ	.00	— .32
	p	— .16	+ 1.54

Corr. Chron. + 1 12.16 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
B. Z., 496, 73,	11 37 38.49	+20 42 49.21
B. Z., 496, 75,	11 39 46.52	+20 51 21.38

Egeria—B. Z., 496, 73,

		Δα (m. s.)	Δδ (′ ″)
M. T.	13 12 18.54	+ 3 21.03	— 4 26.29
	Δt	+ .55	
	Δρ	— .03	— .39
	p	— .21	+ 2.12

Egeria—B. Z., 496, 75,

		Δα (m. s.)	Δδ (′ ″)
M. T.	13 12 18.54	+ 1 12.83	—12 56.28
	Δt	+ .19	
	Δρ	+ .08	— 1.15
	p	— .21	+ 2.12

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1851. Nov. 28	2502, Rumker	36.5	49.5	1.9	16 41 49.30	1 51.515	+ 2 0.48	— 46.741
	Victoria	- -	50.0	3.0	43 49.78	3 38.141		
	2502, Rumker	22.1	35.3	47.9	47 35.10	1 51.670	+ 2 0.13	— 46.846
	Victoria	22.5	35.2	48.0	49 35.23	3 38.401		
	2502, Rumker	18.5	31.0	43.0	51 30.83	1 51.934	+ 2 0.34	— 46.769
	Victoria	19.0	31.5	43.0	53 31.17	3 38.588		
	2502, Rumker	45.2	58.1	10.0	18 4 57.77	1 52.562	+ 2 0.13	— 47.443
	Victoria	45.0	- -	- -	6 57.90	3 39.890		

RESULTS.

m. s.
Corr. Chron. — 2 29.70

	a	δ
	h. m. s.	° ′ ″
2502, Rumker,	8 15 48.61	+11 6 22.10

Victoria—2502, Rumker,

		Δa	$\Delta\delta$
	h. m. s.	m. s.	′ ″
M. T.	17 5 58.82	— 2 0.27	—12 1.60
	Δt —	.33	
	$\Delta\varrho$	.00	— .27
	p +	.07	+ 1.86

OBSERVATIONS

WITH THE

TRANSIT INSTRUMENT,

1852.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	40.12	42.68	45.59	48.68	51.26						
	2		B.	11.56	13.73	16.38	18.92	21.09						
Jan. 24	3	α Tauri	C.	41.41	43.37	45.51	47.48	49.78	27 45.53	+ 0.15	−19.86	4 27 25.82	− 6.83	K.*
	4		D.	10.15	12.59	14.72	16.99	19.40						
	5		E.	39.79	42.81	45.22	48.09	51.00						
	6	Orionis (1618)	A.	42.78	45.27	47.99	51.17	53.46	6 3.02	+ 0.10	−19.88	5 6 26.58	− 6.00	
	7		B.	13.42	15.46	17.85	20.38	22.43		+43.34				
	8		A.	42.03	44.61	47.42	50.40	52.91						
	9		B.	12.85	14.70	17.38	19.68	21.66						
	10	β Orionis	C.	41.66	43.46	45.52	47.42	49.51	7 45.67	+ 0.10	−19.88	5 7 25.89	− 5.99	
	11		D.	9.42	11.73	13.83	16.09	18.41						
	12		E.	38.12	41.10	44.72	47.12	50.15						
	13		A.	56.70	59.09	2.00	4.99	7.47						
	14		B.	26.86	29.10	31.49	34.08	35.90						
27	15	γ Ceti	C.	55.52	57.65	59.82	1.56	3.63	35 59.61	+ 0.12	−22.15	2 35 37.58	− 5.57	L.*
	16		D.	23.20	25.70	27.72	29.81	32.11						
	17		E.	51.74	54.68	57.21	59.66	2.61						
	18		A.	51.02	53.66	56.62	59.66	2.03						
	19		B.	21.50	23.90	26.30	28.88	30.87						
	20	α Ceti	C.	50.32	52.26	54.35	56.45	58.56	54 54.31	+ 0.12	−22.16	2 54 32.27	− 5.73	
	21		D.	18.00	20.21	22.51	24.50	26.71						
	22		E.	46.42	49.42	52.00	54.41	57.18						
	23		A.	31.55	35.36	39.41	44.55	48.30						
	24		B.	18.22	21.62	25.19	29.12	31.90						
	25	α Persei	C.	2.50	5.26	8.21	11.20	14.65	14 8.28	+ 0.22	−22.17	3 13 45.83	− 8.37	
	26		D.	44.58	48.13	51.43	54.69	58.25						
	27		E.	28.00	32.81	36.74	40.48	44.89						
	28		A.	1.48	4.13	7.29	10.65	13.40						
	29		B.	34.49	36.65	39.21	41.98	44.05						
	30	Arietis (1069)	C.	5.20	7.58	9.74	11.87	14.00	20 9.64	+ 0.16	−22.17	3 19 47.63	− 6.58	
	31		D.	35.13	37.78	40.08	42.35	44.83						
	32		E.	6.00	9.16	11.64	14.72	17.50						
	33		A.	29.83	32.50	35.51	38.76	41.88						
	34		B.	2.89	5.08	7.74	10.22	12.25						
	35	Tauri (1107)	C.	33.53	35.88	38.19	40.34	42.49	28 38.07	+ 0.16	−22.18	3 28 16.05	− 6.66	
	36		D.	3.49	6.24	8.64	10.73	13.29						
	37		E.	34.49	37.81	40.46	43.35	46.12						
	38		A.	54.40	57.26	0.36	3.72	6.41						
	39		B.	27.98	30.19	32.74	35.39	37.61						
	40	η Tauri	C.	59.02	1.12	3.40	5.42	7.80	39 3.27	+ 0.16	−22.18	3 38 41.25	− 6.80	
	41		D.	29.14	31.65	33.98	36.33	38.63						
	42		E.	0.08	3.22	5.92	8.40	11.62						
	43		A.	25.03	27.20	30.16	33.30	36.10						
	44		B.	55.82	58.19	0.49	2.88	5.12						
	45	γ^1 Eridani	C.	25.29	27.26	29.53	31.79	33.93	51 29.49	+ 0.08	−22.19	3 51 7.38	− 5.44	
	46		D.	53.58	55.93	58.38	0.46	3.00						
	47		E.	22.92	26.17	28.90	31.48	34.30						
	48		A.	51.17	53.61	56.20	59.46	2.08						
	49		B.	21.81	23.76	26.41	28.94	30.92						
28	50	α Aquilæ	C.	50.61	52.72	54.90	56.74	58.90	43 54.74	+ 0.13	−23.19	19 43 31.68	− 3.90	
	51		D.	18.82	21.20	23.11	25.38	27.70						
	52		E.	47.16	50.39	52.96	55.33	58.21						
	53		A.	45.71	48.21	51.31	54.38	56.94						
	54		B.	17.42	19.45	22.25	24.59	26.49		+ 0.15				
Feb. 3	55	α Tauri	C.	47.12	49.15	51.25	53.32	55.28	27 36.26	+14.99	−25.67	4 27 25.73	− 6.71	
	56		D.	15.98	18.36	20.63	22.22	25.28						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
Jan. 24	4	− 0 19.84	g 0.033	+ 0.212	+ 0.132	− 0.080
27	4	− 0 22.19	g 0.029	+ 0.212	+ 0.132	− 0.080
28	4	− 0 22.81	g 0.024	+ 0.212	+ 0.132	− 0.080
Feb. 3	5	− 0 25.68	g 0.015	+ 0.212	+ 0.132	− 0.080

* The letters K. and L., in the column headed Observer, indicate that the observations to which they are opposite were made by Professors Keith or Lawrence.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	47.71	50.06	53.23	56.60	59.29						
	2		B.	20.43	23.06	25.54	28.26	30.34						
Feb. 3	3	Leporis (1560) - -	C.	51.88	53.99	56.05	58.22	0.48	56 56.04	+ 0.05	—25.68	4 56 30.41	— 5.27	L.
	4		D.	21.60	24.38	26.46	28.96	31.46						
	5		E.	52.61	55.88	58.85	1.29	4.37						
	6		A.	47.64	49.91	53.04	56.10	58.40						
	7		B.	18.38	20.43	23.05	25.42	27.38						
	8	β Orionis - - - - -	C.	47.27	49.42	51.56	53.43	55.24	7 51.31	+ 0.10	—25.68	5 7 25.73	— 5.88	
	9		D.	15.06	17.69	19.97	21.77	24.16						
	10		E.	43.88	47.00	49.56	52.00	54.90						
	11		A.	10.34	13.16	16.40	19.81	22.69						
	12		B.	45.00	47.24	50.00	52.70	55.12						
	13	β Tauri - - - - -	C.	17.49	19.66	21.90	24.23	26.57	17 21.96	+ 0.17	—25.68	5 16 56.45	— 7.67	
	14		D.	48.80	51.48	54.00	56.38	59.03						
	15		E.	21.27	24.35	27.57	30.10	33.59						
	16		A.	49.65	52.00	54.85	57.88	0.44						
	17		B.	19.75	22.12	24.42	26.91	28.93						
	18	δ Orionis - - - - -	C.	48.18	50.37	52.53	54.35	56.53	24 52.46	+ 0.12	—25.69	5 24 26.89	— 6.29	
	19		D.	16.06	18.57	20.60	22.72	25.04						
	20		E.	44.51	47.46	50.05	52.33	55.30						
	21		A.	5.23	7.39	10.26	13.26	16.00						
	22		B.	35.66	37.60	40.03	42.66	44.43						
	23	ε Orionis - - - - -	C.	4.06	6.19	8.10	10.00	12.28	29 8.09	+ 0.11	—25.69	5 28 42.51	— 6.27	
	24		D.	31.72	34.03	36.13	38.39	40.77						
	25		E.	0.05	3.20	5.59	8.11	11.03						
	26		B.	4.45	6.92	9.85	12.98	15.27						
	27		C.	39.07	41.35	43.91	46.05	48.85		+ 0.01				
	28	α Columbæ - - - -	D.	12.43	15.19	17.58	20.39	23.23	35 1.23	—17.42	—25.69	5 34 18.13	— 4.92	
	29		E.	46.76	50.47	53.24	56.52	0.12						
	30		A.	31.79	34.42	37.21	40.09	42.74						
	31		B.	2.48	4.68	7.00	9.66	11.66						
	32	α Orionis - - - - -	C.	31.45	33.46	35.35	37.46	39.44	47 35.36	+ 0.13	—25.69	5 47 9.80	— 6.72	
	33		D.	59.00	1.41	3.50	5.77	8.28						
	34		E.	27.87	30.78	33.54	35.98	38.86						
	35		A.	18.33	20.61	23.77	27.09	29.60						
	36		B.	51.14	53.34	55.80	58.57	0.61						
	37	μ Geminorum - - -	C.	22.03	24.11	26.34	28.44	30.43	14 26.28	+ 0.16	—25.70	6 14 0.74	— 7.59	
	38		D.	52.00	54.72	56.90	59.00	1.54						
	39		E.	22.68	25.99	28.61	31.14	34.19						
	40		A.	58.00	0.61	3.77	7.00	9.43						
	41		B.	29.68	32.00	34.65	37.00	39.14						
	42	α Canis Majoris - -	C.	59.55	1.77	4.00	6.02	8.08	39 3.79	+ 0.08	—25.70	6 38 38.17	— 5.86	
	43		D.	28.28	30.85	33.13	35.17	37.77						
	44		E.	57.90	1.13	3.88	6.37	9.55						
	45		A.	3.36	6.13	9.42	12.66	15.46						
	46		B.	37.77	40.19	43.23	45.90	48.36						
	47	ε Canis Majoris - - -	C.	10.58	12.85	15.14	17.37	19.68	53 15.06	+ 0.03	—25.71	6 52 49.38	— 5.53	
	48		D.	41.88	44.73	47.21	49.48	52.22						
	49		E.	14.00	18.00	20.52	23.84	26.55						
	50		A.	35.13	37.72	40.78	44.00	46.44						
	51		B.	7.75	9.88	12.63	15.13	17.44						
	52	δ Geminorum - - -	C.	38.35	40.71	43.00	45.00	47.52	11 42.87	+ 0.16	—25.71	7 11 17.32	— 7.68	
	53		D.	8.35	11.13	13.00	15.55	18.19						
	54		E.	38.75	42.05	45.00	47.28	50.88						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Feb. 3 5	— 0 25.68	g 0.015	+ 0.212	+ 0.132	— 0.080

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	56.40	59.09	1.87	4.79	7.29						
	2		C.	30.08	32.53	35.61	37.57	39.93		+ 0.18				
Feb. 3	3	α^2 Geminorum	D.	3.11	6.00	8.33	11.00	13.80	25 52.15	−17.05	−25.72	7 25 9.56	− 8.25	L.
	4		E.	36.67	40.38	43.19	45.98	49.41						
	5		A.	29.90	32.54	36.19	39.25	41.79						
	6		B.	4.24	6.75	9.56	12.27	14.45						
	7	β Geminorum	C.	36.50	39.28	41.59	43.44	45.86	36 41.26	+ 0.17	−25.72	7 36 15.71	− 7.93	
	8		D.	7.95	10.82	13.29	15.58	18.11						
	9		E.	40.12	43.60	46.88	49.29	52.26						
	10		A.	32.45	34.67	38.00	41.21	44.05						
	11		B.	5.53	7.81	10.38	13.24	15.36						
	12	15 Argus	C.	36.99	39.00	41.19	43.42	45.64	1 41.15	+ 0.05	−25.73	8 1 15.47	− 5.99	
	13		D.	6.79	9.37	12.13	14.36	16.92						
	14		E.	37.99	41.27	44.00	46.87	50.00						
	15		A.	55.60	57.84	0.69	3.55	6.20						
	16		B.	25.51	28.22	30.72	33.00	35.17						
8	17	α Aquilæ	C.	55.00	57.00	59.06	1.02	3.19	43 59.03	+ 0.13	−27.20	19 43 31.96	− 4.07	
	18		D.	22.99	25.29	27.36	29.50	31.67						
	19		E.	51.57	54.80	57.47	0.70	2.56						
	20		A.	19.15	22.59	26.58	31.00	34.16						
	21		B.	2.14	5.00	8.52	11.86	14.43						
	22	α Cygni	C.	42.12	45.09	47.99	50.66	53.77	36 47.88	+ 0.21	−27.21	20 36 20.88	− 1.96	
	23		D.	21.19	24.47	27.31	30.42	33.78						
	24		E.	1.34	5.45	9.00	12.52	16.47						
	25		A.	58.56	1.38	4.62	7.99	10.92						
	26		B.	33.00	35.30	38.19	40.99	43.35						
	27	α Andromadæ	C.	5.52	7.83	10.19	12.26	14.71	1 10.05	+ 0.17	−27.23	0 0 42.99	− 4.56	
	28		D.	36.92	39.69	41.91	44.12	47.06						
	29		E.	9.00	12.71	15.43	18.13	21.53						
	30		A.	35.43	38.11	40.89	43.85	46.75						
	31		B.	7.19	9.21	11.52	14.36	16.60						
9	32	Sun I.	C.	36.99	38.91	40.98	43.02	45.02	29 40.90	+ 0.08				
	33		D.	5.71	7.94	10.17	12.18	14.88						
	34		E.	35.07	37.89	40.74	43.00	46.17			−27.14	21 30 21.34	. . .	
	35		A.	50.70	53.22	55.98	59.27	1.88						
	36		B.	22.00	24.13	26.90	29.21	31.41						
	37	Sun II.	C.	51.61	53.84	56.26	58.08	0.18	31 55.89	+ 0.08				
	38		D.	20.24	22.91	25.15	27.12	29.60						
	39		E.	50.00	52.89	55.39	58.04	1.30						
	40		A.	3.58	6.00	8.75	11.71	14.29						
	41		B.	34.20	36.26	38.65	41.00	43.06						
	42	Venus I.	C.	2.91	5.00	7.00	8.81	11.00	32 6.88	+ 0.11				
	43		D.	30.59	33.12	35.19	37.28	39.76						
	44		E.	59.15	2.31	4.88	7.32	10.11			−27.16	23 31 40.25	. . .	
	45		A.	4.38	6.89	9.71	12.78	15.21						
	46		B.	35.00	37.00	39.55	41.90	43.82						
	47	Venus II.	C.	3.85	5.71	7.81	9.69	11.91	32 7.71	+ 0.11				
	48		D.	31.40	34.01	36.00	38.00	40.56						
	49		E.	59.90	3.11	5.56	8.07	11.00						
	50		A.	7.99	10.76	13.80	17.00	19.82						
	51		B.	41.00	43.18	46.00	48.46	50.79						
	52	α Arietis	C.	11.93	14.02	16.26	18.56	20.96	59 16.31	+ 0.16	−27.18	1 58 49.29	− 5.67	
	53		D.	41.97	44.57	46.75	49.08	51.66						
	54		E.	12.66	16.00	18.64	21.32	24.49						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
Feb. 3	7	− 0 25.71 g	0.015	+ 0.212	+ 0.132	− 0.080
8	21	− 0 27.21 g	0.008	+ 0.212	+ 0.132	− 0.080
9	2	− 0 27.18 g	0.008	+ 0.212	+ 0.132	− 0.080

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	1.39	3.72	6.80	9.58	12.10						
	2		B.	31.85	34.00	36.43	38.69	40.84						
Feb. 9	3	γ Ceti	C.	0.43	2.24	4.47	6.41	8.51	36 4.43	+ 0.12	—27.18	2 35 37.37	— 5.38	L.
	4		D.	28.00	30.69	32.70	34.75	36.94						
	5		E.	56.61	59.67	2.00	4.50	7.32						
	6		A.	56.06	58.60	1.29	4.21	6.89						
	7		B.	26.50	28.81	31.09	33.55	35.66						
	8	α Ceti	C.	55.00	57.00	59.21	1.15	3.33	54 59.14	+ 0.12	—27.19	2 54 32.07	— 5.54	
	9		D.	22.87	25.06	27.32	29.41	31.69						
	10		E.	51.32	54.26	56.87	59.29	2.17						
	11		A.	36.00	39.99	44.25	48.86	52.56						
	12		B.	22.30	26.00	29.98	33.31	36.28						
	13	α Persei	C.	6.64	9.62	12.56	15.60	19.00	14 12.69	+ 0.22	—27.19	3 13 45.72	— 7.76	
	14		D.	49.00	52.60	56.00	59.00	2.92						
	15		E.	32.57	37.26	41 09	44.81	49.11						
	16		A.	59.51	2.22	5.00	8.39	11.06						
	17		B.	32.66	34.99	37.50	40.11	42.13						
	18	η Tauri	C.	3 98	6.00	8.46	10.21	12.66	39 8.14	+ 0.16	—27.19	3 38 41.11	— 6.60	
	19		D.	33.97	36.46	38.90	41.08	43.83						
	20		E.	4.75	8.05	11.00	13.78	16 78						
	21		A.	29.61	32.00	34.80	38.03	40.56						
	22	γ′ Eridani	B.	0.90	3.20	6.00	8.20	10.21	51 14.70	+ 0.08	—27.20	3 51 7.37	— 5.24	
	23		D.	58.62	1.30	3.52	5.59	8.00		+19.79				
	24		A.	34.15	36.66	39.59	42.66	45.29						
	25		B.	4.22	6.83	9.34	11.99	13.70						
14	26	α Orionis	C.	33.70	35.64	37.67	39.69	41.75	47 37.66	+ 0.13	—28.14	5 47 9.65	— 6.60	K.
	27		D.	1.53	3.88	5.79	8.11	10.48						
	28		E.	30.03	33.22	35.77	38.37	41.43						
	29		B.	39.86	42.62	45.65	48.46	50.55						
	30	ε Canis Majoris	C.	13.00	15.02	17.47	19.56	22.20	53 33.89	+ 0.03	—28.15	6 52 49.32	— 5.42	
	31		D.	44.62	47.10	49.40	51.95	54.61		—16.45				
	32		E.	16.75	20.14	23.16	26.21	29.29						
	33		A.	49.51	52.28	55.19	58.21	0.86						
	34		B.	21.20	23.38	26.05	28.50	30.55						
19	35	α Tauri	C.	50.71	52.71	54.99	57.30	59.42	27 55.14	+ 0.15	—29.82	4 27 25.47	— 6 47	L.
	36		D.	19.68	21.97	24.56	26.60	29.28						
	37		E.	49.20	52.33	55.12	57.90	0.90						
	38		A.	39.10	41.50	44.18	47.26	50.12						
	39		B.	10.62	12.65	15.22	17.89	19.82						
	40	Tauri (1539)	C.	40.27	42.19	44.23	46.23	48.49	51 44.29	+ 0.15	—29.83	4 51 14.61	— 6.64	
	41		D.	8.58	11.30	13.62	15.62	18.12						
	42		E.	38.31	41.50	44.17	46.80	49.58						
	43		A.	1.13	3.46	6.43	9.42	11.76						
	44		B.	31.51	33.78	36.35	38.61	40.62						
	45	β Eridani	C.	0.15	2.38	4.33	6.24	8.35	1 4.25	+ 0.10	—29.83	5 0 34.52	— 5.76	
	46		D.	27.60	30.42	32.39	34.58	36.92						
	47		E.	56.46	59.41	2.06	4.49	7.52						
	48		A.	54.00	56.00	58.85	2.09	4.56						
	49		B.	23.93	25.99	28.40	31.19	32.93						
	50	δ Orionis	C.	52.54	54.73	56.70	58.61	0.80	24 56.58	+ 0.12	—29.84	5 24 26.86	— 6.08	
	51		D.	20.17	22.41	24.61	26.90	29.12						
	52		E.	48.34	51.61	54.00	56.51	59.49						
	53		A.	8.04	11.70	14.42	17.54	19.88						
	54		B.	39.62	41.58	43.70	46.29	48.51						
	55	ε Orionis	C.	8.18	10.04	12.10	14.00	16.05	29 12.02	+ 0.11	—29.84	5 28 42.29	— 6.06	
	56		D.	35.61	37.97	40.16	42.03	44.65						
	57		E.	4.19	7.26	9.60	12.12	15.14						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
Feb. 9	2	— 0 27.18 g	0.008	+ 0.212	+ 0.132	— 0.080
14	2	— 0 28.10 g	0.010	+ 0.212	+ 0.132	— 0.080
14	5	— 0 28.13 g	0.010	+ 0.212	+ 0.132	— 0.080
19	5	— 0 29.83 g	0.017	+ 0.212	+ 0.132	— 0.080

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	35.86	38.27	41.03	44.00	46.93						
	2		B.	6.49	8.72	11.25	13.38	15.32						
Feb. 19	3	α Orionis	C.	35.13	37.20	39.44	41.41	43.33	47 39.35	+ 0.13	−29.84	5 47 9.64	− 6.54	L.
	4		D.	3.42	5.48	7.80	9.77	12.20						
	5		E.	32.26	34.90	37.31	40.12	42.78						
	6		A.	40.46	43.32	46.20	49.16	51.60						
25	7		B.	12.05	13.88	16.36	18.44	20.53		+ 0.09				
	8	Sun I.	C.	40.32	42.47	44.88	46.92	48.86	31 30.12	+14.62				
	9		D.	8.88	11.11	13.20	15.54	18.11						
	10		A.	52.16	54.62	57.46	0.90	3.67			−31.36	22 32 19.25	- -	
	11		B.	23.15	25.30	28.12	30 26	32.31						
	12	Sun II.	C.	52.29	54.49	56.46	58.12	0.66	33 56.31	+ 0.09				
	13		D.	20.40	22.71	24.89	27.05	29.42						
	14		E.	49.30	52.20	54.75	57.10	0.06						
	15		A.	38.31	40.70	43.46	46.55	49.06						
	16		B.	8.78	10.87	13.35	15.77	17.76						
	17	Venus I.	C.	37.37	39.32	41.50	43.30	45.56	42 41.49	+ 0.12				
	18		D.	5.32	7.60	9.76	11.80	14.33						
	19		E.	33.90	36.82	39.51	41.70	44.72						
	20		A.	38.97	41.50	44.21	47.33	49.81			−31.36	0 42 10.64	- - -	
	21		B.	9.44	11.65	14.12	16.59	18.52						
	22	Venus II.	C.	38.20	40.23	42.30	44.25	46.43	42 42.27	+ 0.12				
	23		D.	6.00	8.43	10.51	12.63	15.11						
	24		E.	34.61	37.52	40.11	42.67	45.55						
	25		A.	53.19	55.53	58.40	1.48	4.05						
	26		B.	23.66	25.81	28.40	30.70	32.75						
	27	β Orionis	C.	52.80	54.79	56.70	58.55	0.90	7 56.68	+ 0.10	−31.36	5 7 25.42	− 5.55	
	28		D.	20.55	22.90	25.04	27.19	29.60						
	29		E.	49.21	52.26	54.87	57.30	0.30						
	30		A.	15.70	18.40	21.19	24.85	27.52						
	31		B.	50.16	52.61	55.27	57.85	0.44						
	32	β Tauri	C.	22.81	25.19	27.32	29.51	31.97	17 27.20	+ 0.17	−31.36	5 16 56.01	− 7.33	
	33		D.	54.11	57.04	59.26	1.52	4.20						
	34		E.	26.41	29.65	32.55	35.60	38.93						
	35		A.	55.11	57.33	0.19	3.23	5.08						
	36		B.	25.33	27.49	29.79	32.00	34.42						
	37	δ Orionis	C.	53.78	55.97	57.90	59.94	2.09	24 57.86	+ 0.12	−31.36	5 24 26.62	− 5.99	
	38		D.	21.31	23.73	26.02	28.19	30.40						
	39		E.	50.02	52.98	55.37	57.95	0.75						
	40		A.	10.64	13.09	15.78	18.72	21.30						
	41		B.	41.09	43.09	45.52	48.00	49.82						
	42	ε Orionis	C.	9.50	11.56	13.58	15.55	17.67	29 13.52	+ 0.11	−31.36	5 28 42.27	− 5.97	
	43		D.	37.02	39.55	41.68	43.63	46.02						
	44		E.	5.66	8.60	11.10	13.65	16.30						
	45		B.	9.99	12.45	15.42	18.22	20.52						
	46		C.	44.38	46.80	49 16	51.68	54.22		+ 0.01				
	47	α Columbæ	D.	17.69	20.69	23.00	25.49	28.45	35 6.60	−17.42	−31.36	5 34 17.83	− 4.48	
	48		E.	52.15	55.72	58.84	1.89	5.23						
	49		A.	37.26	39.82	42.58	45.63	48.16						
	50		B.	7.81	10.14	12.63	14.02	17.00						
	51	α Orionis	C.	36.67	38.95	41.03	43.00	45.10	47 40.79	+ 0.13	−31.36	5 47 9.56	− 6.44	
	52		D.	4.58	7.19	9.16	11.00	13.65						
	53		E.	33.21	36.45	39.00	41.39	44.22						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
Feb. 19	5	− 0 29.83 g	0.017	+ 0.212	+ 0.132	− 0.080
25	5	− 0 31.36 g	0.000	+ 0.212	+ 0.132	− 0.080
25	6	− 0 31.36 g	0.000	+ 0.212	+ 0.132	− 0.080

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	2.52	5.11	8.13	11.28	14.25						
	2		B.	33.93	36.52	39.20	41.73	43.81						
Mar. 1	3	α Canis Majoris	C.	4.16	6.51	8.60	10.63	12.72	39 8.42	+ 0.08	—30.74	6 38 37.76	— 5.22	L.
	4		D.	33.06	35.71	37.88	40.06	42.19						
	5		E.	2.68	5.91	8.64	11.13	14.22						
	6		A.	8.09	10.96	13.80	17.49	20.22		+ 0.03				
	7	ε Canis Majoris	B.	42.35	45.11	48.11	50.48	52.71	52 30.93	+48.90	—30.74	6 52 49.12	— 5.16	
	8		A.	33.16	35.68	39.09	42.27	45.24						
	9		B.	7.11	9.13	12.02	14.61	16.99						
	10	Moon I.	C.	38.81	40.91	43.12	44.91	47.58	6 43.14	+ 0.16	—30.74	7 7 24.06	- - -	
	11		D.	9.39	12.10	14.23	16.91	19 38						
	12		E.	41.20	44.46	47.17	49.98	53.11						
	13		A.	2.43	5.21	8.17	11.25	13.83						
	14		B.	33.92	36.52	39.16	41.63	43.61						
2	15	α Canis Majoris	C.	4.25	6.20	8.31	10.28	12.52	39 8.30	+ 0.08	—30.71	6 38 37.67	— 5.51	
	16		D.	33.18	35.54	37.63	39.59	42.37						
	17		E.	2.70	5.82	8.58	11.20	13.96						
	18		A.	25.52	28.18	31.50	35.15	38.08						
	19		B.	1.26	3.79	6.90	9.81	11.79						
	20	α^2 Geminorum	C.	35.11	37.42	39.83	42.00	44.29	25 39.77	+ 0.18	—30.71	7 25 9.24	— 8.03	K.
	21		D.	7.62	10.61	13.12	15.37	18.23						
	22		E.	40.92	45.08	48.00	50.69	53.92						
	23		B.	31.64	33.75	36.09	38.47	40.41						
	24		C.	0.10	2.38	4.10	6.22	8.09		+ 0.13				
	25	α Canis Minoris	D.	27.96	30.31	32.11	34.57	37.00	32 18.67	—14.49	—30.71	7 31 33.60	— 6.63	
	26		E.	56.49	59.49	2.19	4.57	7.47						
	27		A.	33.10	35.85	38.97	42.30	45.36						
	28		B.	7.11	8.62	11.66	14.51	16.61						
	29	Moon I.	C.	38.35	40.74	42.84	44.94	46.95	8 42.69	+ 0.16	—30.70	8 9 24.34	- - -	
	30		D.	8.55	11.51	13.67	16.10	18.56						
	31		E.	40.16	43.41	46.24	48.85	52.19						
	32		C.	51.24	53.39	55.31	57.11	59.15						
3	33	β Orionis	D.	19.21	21.69	23.65	26.09	28.29	8 24.16	+ 0.10	—30.22	5 7 25.15	— 5.42	L.
	34		E.	48.09	50.91	53.40	55.88	59.02		—28.89				
	35		A.	14.13	17.04	20.25	23.36	26.30						
	36		B.	48.90	51.13	53.99	56.90	59.10						
	37	β Tauri	C.	21.24	23.12	25.91	27.86	30.69	17 25.91	+ 0.17	—30.22	5 16 55.86	— 7.20	
	38		D.	52.73	55.70	57.79	0.32	3.68						
	39		E.	25.22	28.69	31.71	34.42	37.66						
	40		A.	9.23	11.49	14.49	17.36	20.05						
	41		B.	39.72	41.61	44.21	46.60	48.53						
	42	ε Orionis	C.	8.27	10.19	12.16	14.33	16.42	29 12.20	+ 0.11	—30.21	5 28 42.10	— 5.85	
	43		D.	35.63	38.28	40.46	42.51	44.80						
	44		E.	4.25	7.38	9.76	12.11	15.19						
	45		A.	35.72	38.22	41.06	44.05	46.70						
	46		B.	6.19	8.46	10.72	13.45	15.44						
	47	α Orionis	C.	35.19	37.47	39.41	41.31	43.48	47 39.28	+ 0.13	—30.21	5 47 9.20	— 6.33	
	48		D.	3.31	5.82	7.70	9.99	11.99						
	49		E.	31.82	34.60	37.26	39.99	42.77						
	50		A.	22.19	24.64	27.82	31.42	33.82						
	51		B.	54.99	57.36	0.06	2.52	4.90						
	52	μ Geminorum	C.	25.95	28.33	30.34	32.51	34.66	14 30.34	+ 0.16	—30.19	6 14 0.31	— 7.21	
	53		D.	56.02	58.23	0.83	3.04	5.70						
	54		E.	26.69	29.94	32.82	35.38	38.35						

10. Cor. for Semidiameter = +71ˢ. 50.
29. Cor. for Semidiameter = +72ˢ. 19.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Mar. 1 6	— 0 30.74	1 0.002	+ 0.212	+ 0.132	— 0.080
2 6	— 0 30.72	1 0.008	+ 0.212	+ 0.132	— 0.080
3 6	— 0 30.20	1 0.025	+ 0.212	+ 0.132	— 0.080

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	7.72	10.13	13.10	16.79	19.53						
	2		B.	41.71	44.19	47.12	49.96	52.18						
Mar. 3	3	ε Canis Majoris	C.	14.65	17.12	19.45	21.70	23.97	53 19.19	+ 0.03	−30.18	6 52 49.04	− 5.12	L.
	4		D.	46.28	48.94	51.14	53.46	56.13						
	5		E.	18.73	22.08	24.89	27.65	31.12						
	6		A.	39.18	41.67	44.66	48.20	50.78						
	7		B.	11.70	13.85	16.82	19.37	21.56						
	8	δ Geminorum	C.	42.82	44.79	47.09	49.40	51.49	11 47.00	+ 0.16	−30.17	7 11 16.99	− 7.43	
	9		D.	12.41	15.12	17.21	19.81	22.22						
	10		E.	42.71	46.49	49.14	51.83	54.89						
	11		B.	54.20	57.43	59.00	1.86	4.00						
	12	Camelopardi [2533]	C.	23.50	25.50	27.03	29.80	32.46	33 42.48	+ 0.14	−30.16	7 32 57.82	− 6.95	
	13		D.	51.60	54.42	56.78	58.75	1.06		−14.64				
	14		E.	20.64	23.81	26.68	29.13	31.94						
	15		A.	13.21	15.55	17.96	21.66	24.54						
	16		B.	46.00	48.50	51.47	54.08	56.46						
	17	Mars I.	C.	17.20	19.67	22.14	24.19	26.59	49 22.05	+ 0.17				
	18		D.	47.32	51.08	53.64	55.65	57.80						
	19		E.	18.90	22.83	25.78	28.19	30.72			−30.15	7 48 52.56	. . .	
	20		B.	47.48	50.06	52.42	55.19	57.48						
	21	Mars II.	C.	18.60	20.96	23.20	25.50	27.99	49 39.24	+ 0.17				
	22		D.	49.36	52.15	54.78	56.58	59.48		−15.87				
	23		E.	20.52	23.85	27.11	29.66	32.39						
	24		A.	36.61	39.51	42.12	45.42	48.22						
	25		B.	9.51	11.75	14.45	17.18	19.49						
	26	15 Argus	C.	41.26	43.28	45.27	47.65	49.93	1 45.32	+ 0.05	−30.15	8 1 15.22	− 5.78	
	27		D.	11.29	13.42	15.95	18.54	21.00						
	28		E.	42.20	45.59	48.20	51.00	54.25						
	29		A.	40.65	43.08	46.07	49.19	51.75						
	30		B.	12.51	14.71	17.23	19.63	22.04						
	31	δ Cancri	C.	42.62	44.56	46.95	48.91	51.09	36 46.80	+ 0.16	−30.13	8 36 16.83	− 7.42	
	32		D.	11.60	14.11	16.48	18.64	21.19						
	33		E.	41.52	44.60	47.50	50.22	53.21						
	34		A.	49.32	52.09	54.96	5.76	0.30						
	35		B.	20.76	22.75	25.29	27.88	29.91						
	36	α Cancri	C.	49.90	52.10	54.22	56.12	58.21	50 54.40	+ 0.14	−30.13	8 50 24.41	− 7.18	
	37		D.	18.51	20.77	22.78	25.10	27.51						
	38		E.	47.51	50.61	53.27	55.77	58.57						
	39		A.	11.11	14.30	17.49	20.36	23.19						
	40		B.	43.98	46.73	49.23	52.22	55.00						
	41	Moon I.	C.	15.61	17.70	20.31	22.13	24.63	11 19.86	+ 0.16	−30.12	9 12 1.95	. . .	
	42		D.	45.31	47.90	50.03	53.00	55.40						
	43		E.	16.28	19.26	21.98	25.13	28.25						
	44		A.	24.58	26.71	29.51	32.73	35.26						
	45		B.	55.60	57.18	59.89	2.49	4.73						
	46	ξ Leonis	C.	24.94	27.00	29.15	30.70	33.00	24 28.78	+ 0.14	−30.11	9 23 58.81	− 7.20	
	47		D.	52.91	55.31	57.52	59.78	2.58						
	48		E.	21.96	25.13	27.49	30.13	33.30						
	49		A.	41.58	44.13	46.98	49.98	52.48						
	50		B.	12.09	14.61	16.89	19.87	21.69						
	51	ο Leonis	C.	41.60	43.41	45.61	47.68	49.83	33 45.54	+ 0.14	−30.11	9 33 15.57	− 7.15	
	52		D.	9.36	11.81	13.80	16.26	18.73						
	53		E.	38.46	41.30	44.10	46.63	49.60						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Mar. 3 8	− 0 30.15	1 0.026	+ 0.212	+ 0.132	− 0.080

41. Cor. for Semidiameter = +72".05.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	41.46	42.55	43.59	46.73	47.59						
	2		B.	8.21	9.28	10.61	11.49	14.60						
Mar. 10	3	α^2 Geminorum	C.	35.29	36.26	37.40	38.39	39.32	25 37.30	+ 1.53	−29.61	7 25 9.22	− 7.90	K.
	4		D.	0.18	3.16	4.17	5.21	6.32						
	5		E.	26.84	27.62	31.04	32.00	33.21						
	6		A.	14.22	15.15	16.12	18.92	19 74						
	7		B.	37.44	38.15	38.76	40.00	42.41						
	8	α Canis Minoris	C.	0.33	0.99	1.88	2.80	3.67	32 1.88	+ 1.03	−29.61	7 31 33.30	− 6.53	
	9		D.	21.25	24.03	24.90	25.71	26.64						
	10		E.	43.97	44.63	47.60	48.40	49.35						
	11		A.	52.05	53.10	54.05	56.87	57.85						
	12		B.	17.00	17.90	18.80	19.92	22.84						
	13	15 Argus	C.	41.83	42.80	43.76	44.80	45.60	1 43.78	+ 0.84	−29.60	8 1 15.02	− 5.68	
	14		D.	4.88	7.80	8.46	9.52	10.55						
	15		E.	29.70	30.52	33.60	34.75	35.54						
	16		A.	15.02	16.13	17.11	20.13	21.17						
	17		B.	40.18	41.31	42.40	43.40	46.08						
18	18	Mars I.	C.	5.26	6.18	7.19	8.16	9.16	54 7.15	+ 1.33	−25.67	7 53 43.15	. . .	
	19		D.	28.30	31.06	32.05	33.15	34.06						
	20		E.	53.12	53.98	57.08	58.00	58.99						
	21		A.	47.83	48.89	49.78	52.72	53.63						
	22		B.	12.71	13.86	14.89	15.90	18.53						
	23	15 Argus	C.	37.96	38.86	39.89	40.96	41.88	1 39.77	+ 0.84	−25.67	8 1 14.94	− 5 55	
	24		D.	0.81	3.69	4.70	5.69	6.69						
	25		E.	25.63	26.68	29.79	30.69	31.52						
	26		A.	59.41	0.52	1.49	4.31	5.14						
	27		B.	22.98	23.89	25.00	25.95	28 31						
	28	Hydræ (2975)	C.	46.34	47.40	48.38	49.26	50.12	39 48.26	+ 0.88	−25.66	8 39 23.48	− 6.42	
	29		D.	7.98	10.55	11.79	12.68	13.55						
	30		E.	31.31	32.06	34.94	36.04	36.98						
Apr. 1	31	Polaris	C.	2.58	3.33	4.08	4.40	5.15	4 6.80	+66.72 − 1.39	−22.60	1 4 49.53	+11.34	
	32		A.	29.71	30.77	31.79	34.31	35.29						
	33		B.	52.70	53.58	54.45	55.40	58.02						
2	34	ϵ Hydræ	C.	15.81	16.46	17.52	18.35	19.30	39 17.49	+ 1.05	−22.23	8 38 56.31	− 6.60	
	35		D.	37.00	39.48	40.44	41.35	42.28						
	36		E.	59.82	0.70	3.31	4.23	5.21						
	37		A.	52.70	53.60	54.62	57.20	58.09						
	38		B.	15.70	16.66	17.68	18.52	21.12						
	39	α Hydræ	C.	38.80	39.50	40.62	41.52	42.42	20 40.54	+ 0.91	−22.23	9 20 19.22	− 6.36	
	40		D.	59.98	2.49	3.50	4.42	5.26						
	41		E.	22.99	23.75	26.61	27.45	28.30						
	42		A.	55.76	56.83	57.92	0.85	1.80						
	43		B.	21.13	22.00	23.09	23.93	26.88						
	44	ϵ Leonis	C.	46.25	47.21	48.10	48.99	50.00	37 47.97	+ 1.34	−22.22	9 37 27.09	− 7.37	
	45		D.	9.12	11.92	12.86	13.92	14.96						
	46		E.	34.00	35.00	37.87	38.81	39.90						
	47		A.	2.21	3.35	4.18	6.72	7.76						
	48		B.	25.92	26.70	27.44	28 47	31.15						
	49	α Leonis	C.	49.22	49.97	50.80	51.69	52.49	0 50.84	+ 1.12	−22.22	10 0 29.74	− 6.99	
	50		D.	10.63	13.11	14.15	15.15	16.09						
	51		E.	33.72	34.73	37.42	38.39	39.42						
	52		A.	27.61	28.57	29.44	32.13	33.17						
	53		B.	50.50	51.29	52.42	53.21	55.99						
9	54	ϵ Hydræ	C.	13.56	14.51	15.28	16.21	17.04	39 15.33	+ 1.05	−20.21	8 38 56.17	− 6.50	L.
	55		D.	34.88	37.29	38.12	39.19	40.08						
	56		E.	57.62	58.40	1.36	2.23	3.15						

18. Cor. for Semidiameter = + 0s. 34.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Mar. 10 8	− 0 29.60	1 0.022	− 0.216	+ 0.541	+ 1.204
18 8	− 0 25.67	1 0.016	− 0.216	+ 0.541	+ 1.204
Apr. 1 8	− 0 22.52	1 0.012	− 0.216	+ 0.541	+ 1.204
2 8	− 0 22.24	1 0.011	− 0.216	+ 0.541	+ 1.204

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	9.52	10.98	12.29	16.12	17.38						
	2		B.	43.94	45.49	46.82	48.12	52.33						
April 9	3	ι Ursæ Majoris	C.	18.67	19.98	21.26	22.47	23.98	49 21.19	+ 2.20	−20.21	8 49 3.18	− 8.53	L.
	4		D.	50.42	54.13	55.61	57.21	58.68						
	5		E.	24.70	25.92	29.96	31.26	32.54						
	6		A.	50.59	51.59	52.38	55.09	56.00						
	7		B.	13.80	14.85	15.81	16.59	19.12						
	8	α Hydræ	C.	36.40	37.67	38.58	39.62	40.58	20 38.55	+ 0.91	−20.21	9 20 19.25	− 6.27	
	9		D.	58.08	0.62	1.49	2.53	3.52						
	10		E.	20.96	21.82	24.42	25.32	26.29						
	11		A.	39.42	40.47	41.42	44.49	45.52						
	12		B.	5.17	6.08	6.89	7.98	10.81						
13	13	χ^1 Hydræ	C.	30.75	31.52	32.36	33.46	34.43	58 32.43	+ 0.84	−19.18	10 58 13.09	− 6.68	
	13		D.	53.98	56.52	57.77	59.06	0.11						
	15		E.	19.51	20.32	23.42	24.19	25.08						
	16		A.	14.13	15.24	16.35	19.62	20.52						
	17		B.	40.10	40.98	41.95	42.98	45.67						
	18	χ^2 Hydræ	C.	5.62	6.48	7.52	8.69	9.73	59 7.45	+ 0.84	−19.18	10 58 48.11	− 6.72	
	19		D.	29.22	31.97	32.93	34.00	35.06						
	20		E.	54.50	55.38	58.11	59.20	0.25						
	21		A.	42.48	43.62	44.52	47.38	48.35						
	22		B.	7.00	7.97	9.00	10.08	12.79						
	23	δ Leonis	C.	31.81	32.66	33.60	34.40	35.31	6 33.51	+ 1.27	−19.18	11 6 14.60	− 7.20	
	24		D.	54.27	57.09	58.11	59.00	0.12						
	25		E.	18.38	19.41	22.22	23.28	24.35						
	26		A.	28.11	29.18	29.99	32.52	33.40						
	27		B.	51.48	52.33	53.48	54.35	57.00						
	28	δ Hydræ et Crateris	C.	14.89	15.95	16.87	17.79	18.69	12 16.78	+ 0.88	−19.18	11 11 57.48	− 6.82	
	29		D.	36.82	39.30	40.18	41.28	42.07						
	30		E.	59.77	0.63	3.63	4.49	5.30						
	31		A.	1.28	2.28	3.36	5.08	6.07						
	32		B.	25.29	26.20	27.11	27.95	29.77						
	33	Jupiter I.	C.	49.42	50.16	50.98	51.29	52.87	16 50.88	+ 0.86	−19.12	15 16 32.16	. . .	
	34		D.	11.22	14.11	14.81	15.87	16.79						
	35		E.	34.99	35.81	38.70	39.55	40.41						
	36		A.	51.82	52.85	53.60	56.81	57.80						
	37		B.	17.50	18.29	19.42	20.40	23.35						
	38	α Coronæ Borealis	C.	43.18	44.10	45.00	45.96	47.18	28 45.02	+ 1.40	−19.12	15 28 26.30	− 6.14	
	39		D.	6.67	9.55	10.60	11.69	12.74						
	40		E.	32.20	33.00	36.22	37.29	38.29						
	41		A.	30.83	31.92	32.74	35.51	36.47						
	42		B.	53.99	54.83	55.88	56.69	59.49						
	43	α Serpentis	C.	17.16	17.99	18.96	19.88	20.63	37 18.76	+ 1.05	−19.11	15 36 59.70	− 6.81	
	44		D.	38.00	40.59	41.70	42.67	43.50						
	45		E.	0.94	1.80	4.68	5.62	6.55						
	46		A.	15.91	16.82	17.89	20.84	21.72						
	47		B.	39.48	40.28	41.25	42.28	45.05						
	48	ρ Serpentis	C.	4.00	4.90	5.80	6.75	7.82	45 6.03	+ 1.28	−19.11	15 44 47.20	− 6.26	
	49		D.	26.63	29.63	30.49	31.38	32.25						
	50		E.	50.80	51.65	54.87	55.71	56.66						
	51		A.	19.97	21.00	22.10	24.75	25.55						
	52	β Scorpii	B.	44.00	45.00	46.27	47.25	49.98	56 46.55	+ 0.86 +23.80	−19.11	15 56 51.10	− 7.85	
	53		C.	8.89	9.59	10.42	11.26	12.19						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
April 9 12	− 0 20.18	1 0.011	− 0.216	+ 0.541	+ 1.204
13 12	− 0 19.16	1 0.014	− 0.216	+ 0.541	+ 1.204

13. N. B. — One second to be subtracted from observations of 13th April, 1852.
33. Cor. for Semidiameter = + 1ˢ. 54.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	7.95	9.00	9.87	12.69	13.59						
	2		B.	30.86	31.81	32.98	33.70	36.39						
April 13	3	δ Ophiuchi	C.	53.79	54.62	55.46	56.43	57.29	6 55.54	+ 0.94	—19.10	16 6 36.38	— 7.08	L.
	4		D.	14.85	17.37	18.20	19.12	20.12						
	5		E.	37.60	38.51	40.98	42.12	43.12						
	6		B.	12.88	14.09	15.12	16.12	18.98						
	7		C.	38.62	39.42	40.45	41.49	42.56		+ 0.84				
	8	α Scorpii	D.	2.00	4.80	5.90	7.00	7.99	20 52.94	—12.51	—19.10	16 20 21.17	— 8.18	
	9		E.	26.98	28.09	31.00	32.02	33.18						
	10		A.	39.97	41.06	41.91	44.69	45.48						
	11		B.	2.87	3.72	4.87	5.65	8.18						
15	12	* 6 mag. Dec. —6°.50	C.	26.18	26.85	27.86	28.64	29.56	37 27.76	+ 0.92	—18.40	8 37 9.28	— 5.96	
	13		D.	47.20	49.87	50.65	51.79	52.56						
	14		E.	9.92	10.80	13.65	14.56	15.46						
	15		A.	26.62	27.60	28.49	31.10	32.00						
	16		B.	49.59	50.32	51.33	52.30	55.01						
	17	ε Hydræ	C.	12.87	13.60	14.39	15.28	16.25	39 14.38	+ 1.05	—18.40	8 38 56.03	— 6.41	
	18		D.	33.96	36.32	37.28	38.28	39.18						
	19		E.	56.65	57.52	0.28	1.19	2.10						
	20		A.	8.44	9.80	11.00	14.97	16.52						
	21		B.	42.87	44.00	45.55	46.91	50.99						
	22	ι Ursæ Majoris	C.	17 71	18.91	20.22	21.39	22.74	49 20.11	+ 2.20	—18.39	8 49 2.92	— 8.39	
	23		D.	49.39	53.52	54.57	56.12	57.26						
	24		E.	23.69	24.89	29.21	30.21	31.81						
	25		A.	17.09	18.11	19.26	22.15	23.16						
	26		B.	42.12	43.00	44.19	45.11	47.61						
	27	ξ Cancri	C.	6.86	7.69	8.63	9.52	10.53	1 8.64	+ 1.30	—18.38	9 0 50.56	— 7.09	
	28		D.	29.58	32.31	33.23	34.25	35.23						
	29		E.	54.16	55.09	58.11	58.96	0.00						
	30		A.	32.64	33.57	34.48	37.05	38.00						
	31		B.	56.10	56.91	57.92	58.96	1.69						
	32	π Cancri	C.	19.71	20.62	21.53	22.40	23.38	7 21.57	+ 1.17	—18.38	9 7 3.36	— 6.84	
	33		D.	41.75	44.26	45.14	46.21	47.23						
	34		E.	5.09	5.93	8.52	9.60	10.59						
	35		A.	49.49	50.56	51.48	54.12	55.12						
	36		B.	12.79	13.76	14.75	15.58	18.10						
	37	α Hydræ	C.	35.93	36.78	37.55	38.39	39.26	20 37.53	+ 0.91	—18.38	9 20 19.06	— 6.19	
	38		D.	57.11	58.81	0.68	1.63	2.47						
	39		E.	19.75	20.78	23.51	24.50	25.28						
	40		C.	55.44	56.23	57.20	58.03	58.95						
	41	η Bootis	D.	17.48	20.47	21.29	22.46	23.30	48 20.92	+ 1.23	—18.27	13 47 39.14	— 6.76	
	42		E.	41.79	42.49	45.27	46.31	47.18		—23.74				
	43		A.	23.32	24.38	25.19	28.06	28.79						
	44		B.	47.24	48.46	49.40	50.32	53.00						
	45	α Bootis	C.	11.80	12.80	13.69	14.80	15.72	9 13.64	+ 1.25	—18.26	14 8 55.63	— 6.47	
	46		D.	34.16	36.77	37.88	38.96	39.98						
	47		E.	58.12	59.00	2.00	3.06	4.12						
	48		A.	34.46	35.46	36.40	38.61	40.00						
	49		B.	57.65	58.83	59.68	0.59	3.30						
	50	β Libræ	C.	20.66	21.52	22.48	23.56	24.32	9 22.39	+ 0.90	—18.23	15 9 4.06	— 7.44	
	51		D.	41.69	44.20	45.29	46.29	47.29						
	52		E.	4.56	5.52	8.00	9.14	10.18						
	53		A.	20.38	21.46	22.50	24.96	25.98						
	54		B.	34.78	35.68	36.65	37.49	40.13						
	55	Jupiter II.	C.	58.88	59.70	0.58	1.40	2.28	16 2.31	+ 0.86	—18.23	15 15 43.39	. . .	
	56		D.	26.14	25.22	24.00	23.30	20.52						
	57		E.	44.31	45.12	47.88	48.68	49.69						

1. N. B. — One second to be subtracted from observations of 13th and 15th April, 1852.
55. Cor. for Semidiameter = —1ˢ.55.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Apr. 13 12	— 0 19.16	I 0.014	— 0.216	+ 0.541	+ 1.204
15 12	— 0 18.31	I 0.025	— 0.216	+ 0.541	+ 1.204

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
Apr. 15	1	Moon II.	A.	47.56	48.53	49.55	52.62	53.40	14 50.33	+ 0.94 +46.05	−18.01	23 51 55.18	- - -	L.
	2		A.	29.89	30.96	31.95	34.67	35.59						
	3		B.	53.04	54.19	55.05	55.99	58.58						
	4	α Serpentis	C.	16.20	17.20	18.12	19.12	20.06	37 17.93	+ 1.05	−18.22	15 36 59.76	− 6.84	
	5		D.	37.32	39.74	40.78	41.83	42.81						
	6		E.	0.27	1.09	3.51	4.63	5.58						
	7		B.	18.40	19.28	20.00	21.02	23.42						
	8		C.	41.92	42.72	43.50	44.46	45.45	4 55.05	+ 1.13				
23	9	Sun I.	D.	3.26	6.10	6.99	7.84	8.80		−11.53				
	10		E.	26.81	27.52	30.33	31.15	32.11						
	11		A.	5.90	6.71	7.55	40 70	11.40			−9.02	2 5 41.15	- - -	
	12		B.	29.18	29.94	30.74	31.88	34.80						
	13	Sun II.	C.	52.73	53.58	54.47	55.46	56.35	6 54.55	+ 1.13				
	14		D.	14.93	17.31	18.10	19.03	19.94						
	15		E.	37.80	38.65	41.41	42.20	43.04						
	16		A.	42.56	43.76	44.79	47.45	48.41						
	17		B.	6.52	7.47	8.48	9.32	12.21						
	18	α Tauri	C.	30.43	31.32	32.27	33.12	34.00	27 32.12	+ 1.18	− 9.00	4 27 24.30	− 5.56	
	19		D.	51.68	54.76	55.80	56.76	57.85						
	20		E.	15.79	16.65	19.66	20.54	21.51						
	21		A.	56.52	58.78	0.52	6.40	8.71						
	22		B.	46.12	48.20	50.24	51.16	57.69						
	23	α Ursæ Majoris	C.	35.79	37.80	39.76	41.81	43.80	54 39.56	+ 3.43	− 8.98	10 54 34.01	− 8.86	
	24		D.	21.38	26.81	29.12	31.13	33.27						
	25		E.	10.64	12.46	18.12	20.31	22.38						
	26		A.	31.15	32.05	33.17	36.16	37.07						
	27		B.	55.66	56.80	57.81	58.76	1.42						
	28	δ Leonis	C.	20.53	21.48	22.31	23.22	24.18	6 22.16	+ 1.27	− 8.98	11 6 14.45	− 7.10	
	29		D.	42.67	45.70	46.51	47.61	48.61						
	30		E.	7.05	7.98	11.13	12.00	13.08						
	31		A.	16.98	17.92	18.70	21.31	22.22						
	32		B.	40.22	41.12	42.04	43.08	45.90						
	33	δ Hydra Crateris	C.	3.76	4.66	5.49	6.52	7.35	12 5.60	+ 0.88	− 8.98	11 11 57.50	− 6.74	
	34		D.	25.40	28.29	29.18	30.05	30.99						
	35		E.	48.83	49.63	52.51	53.50	54.38						
	36		A.	36.55	37.88	38.71	41.31	42.11						
	37		B.	59.67	0.48	1.42	2.43	5.00						
	38	Leonis (3888)	C.	22.62	23.58	24.40	25.44	26.18	18 24.30	+ 1.02	− 8.98	11 18 16.34	− 6.90	
	39		D.	43.75	46.19	47.11	47.87	48.86						
	40		E.	6.37	7.13	9.96	10.82	11.64						
	41		B.	0.31	1.55	2.50	3.20	5.70						
	42		C.	23.37	24.08	25.22	26.00	26.92	25 36.46	+ 0.92	− 8.98	11 25 17.19	− 6.85	
	43	Crateris (3925)	D.	44.44	46.96	47.95	49.10	50.15		−11.21				
	44		E.	7.40	8.14	11.22	11.92	13.05						
	45		A.	49.68	50.90	51.70	54.55	55.45						
	46		B.	13.33	14.58	15 40	16.37	18.81						
	47	β Leonis	C.	37.48	38.18	39.11	39.91	40.91	41 38.98	+ 1.17	− 8.98	11 41 31.17	− 6.94	
	48		D.	59.00	1.70	2.56	3.55	4.56						
	49		E.	22.48	23.36	25.86	26.98	28.06						
	50		A.	54.99	56.00	57.02	59.88	0.96						
	51		B.	19.62	20.78	21.73	22.71	25.52						
	52	β Corvi	C.	44.71	45.62	46.56	47.59	48.52	26 46 39	+ 0.85	− 8.97	12 26 38.27	− 7.35	
	53		D.	7.16	10.12	11.14	11.98	13.12						
	54		E.	31.60	32.66	35.71	36.59	37.55						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d.	h.	m. s.	s.	s.	s.	s.
April 15	12	− 0 18.31	0 025	− 0.216	+ 0.541	+ 1.204
23	12	− 0 8.98	0.004	− 0.216	+ 0.541	+ 1.204

1. N. B. — One second to be subtracted from observations of 15th April, 1852.
1. Cor. for Semidiameter = −61s.06.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	23.66	24.90	25.88	28.70	29.83						
	2		B.	49.48	50.31	51.69	52.56	55.39						
Apr. 23	3	Hydræ (4278)	C.	15.27	16.16	17.45	18.33	19.36	36 17.17	+ 0.84	— 8.97	12 36 9.04	— 7.55	L.
	4		D.	38.93	41.88	42.87	43.97	45.12						
	5		E.	4.21	5.42	8.25	9.26	10.48						
	6		A.	2.25	3.32	4.32	6.82	7.79						
	7		B.	25.51	26.42	27.51	28.28	30.78						
	8	Virginis (4312)	C.	48.75	49.51	50.41	51.27	52.16	43 50.41	+ 0.90	— 8.97	12 43 42.34	— 7.25	
	9		D.	9.95	12.60	13.40	14.50	15.40						
	10		E.	33.09	33.82	36.60	37.45	38.39						
	11		A.	13.42	14.51	15.65	19.12	20 05						
	12		B.	42.51	43.73	44.89	46.12	49.43						
	13	12 Canum Venat.	C.	12.29	13.33	14.41	15.71	16.80	49 14.32	+ 1.76	— 8.97	12 49 7.11	— 6.94	
	14		D.	39.23	42.45	43.46	44.75	46.00						
	15		E.	8.39	9.41	13.00	14.00	15.22						
	16		A.	45.12	46.00	47.00	49.82	50.68						
	17		B.	8 42	9.31	10.00	11.09	13.90						
	18	α Virginis	C.	31.61	32.38	33.51	34.26	35.20	17 33.33	+ 0.89	— 8.97	13 17 25.25	— 7.40	
	19		D.	52.82	55.52	56.47	57.38	58.29						
	20		E.	15.82	16.81	19.58	20.54	21.63						
	21		A.	12.87	13.98	15.09	18.02	18.98						
	22		B.	37.53	38.46	39.31	40.36	43.16						
	23	α Bootis	C.	1.91	2.85	3.77	4.76	5.71	9 3.62	+ 1.25	— 8.97	14 8 55.90	— 6.63	
	24		D.	24.12	26.99	27.86	28.73	29.98						
	25		E.	48.02	48.99	52.02	53.00	54.00						
	26		B.	48.45	49.23	49.57	50.33	52.13						
	27		C.	3.34	4.05	4.37	5.14	5.49		+ 22.75				
26	28	Polaris	D.	17.04	18.43	19.18	19.54	20.32	11 52.88	—434.95	— 8.34	1 4 55.51	+ 6.98	
	29		E.	31.46	32.20	34.00	34.37	35.14						
27	30	Polaris	C.	31.00	0.00	34.00	9.50	44.50	4 35.80	+25.92 — 1.39	— 8.68	1 4 51.65	+ 7.08	K.
	31		A.	9.59	10.72	11.64	15.05	15.91						
	32		B.	35.69	36.59	37.66	38.71	41.89						
	33	β Tauri	C.	1.78	2.73	3.70	4.75	5.70	17 3.61	+ 0.39	— 9.01	5 16 54.99	— 6.30	L.
	34		D.	25.48	28.41	29.38	30.52	31.62						
	35		E.	51.38	52.14	55.35	56.33	57.45						
	36		A.	57.49	58.42	59.50	2.79	3.65						
	37		B.	23.54	24.41	25.46	26.52	29.56						
28	38	α Andromida	C.	49.40	50.20	51.18	52.20	53.27	0 51.30	+ 0.38	— 8.13	0 0 43.55	— 5.02	
	39		D.	13.13	16.23	17.12	18.20	19.29						
	40		E.	38.95	39.87	43.09	43.99	45.00						
	41		B.	18.60	19.47	20.58	21.50	24.18						
	42		C.	42.22	43.20	43.98	44.93	46.00		+ 0.21				
	43	γ Pegasi	D.	3.79	6.44	7.91	8.32	9.19	5 55.57	—11.58	— 8.13	0 5 36.07	— 5.06	
	44		E.	27.21	28.09	31.00	31.84	32.91						
	45		A.	33.58	34.33	35.04	36.52	37.28						
	46		B.	48.44	49.23	49.57	50.31	52.12						
	47	Polaris	C.	3.31	3.59	4.35	5.07	5.45	4 34.06	+25.92	— 8 12	1 4 51.86	— 6.67	
	48		D.	17.03	18.43	19.15	19.53	20.24						
	49		E.	31.35	32.07	33.55	34.33	35.05						
	50		A.	10.24	11.13	12.13	15.12	15.88						
	51		B.	34.04	34.99	35.91	36.95	39.66						
May 1	52	Sun I.	C.	57.91	58.70	59.52	0.40	1.48	34 59.56	+ 0.17	— 6.84	2 35 58.99	. . .	
	53		D.	19.49	22.30	23.23	24.17	25.16						
	54		E.	43.08	43.99	46.91	47.83	48.80						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
Apr. 26 12	— 0 8.47	0.010	— 0.062	+ 0.536	+ 0.152
27 12	— 0 8.92	0.012	— 0.062	+ 0.536	+ 0.152
28 0	— 0 8.13	0.014	— 0.062	+ 0.536	+ 0.152
May 1 3	— 0 6.83	0.028	— 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	22.38	23.29	24.25	27.19	28.10						
	2		B.	46.08	47.00	47.99	49.05	51.45						
May 1	3	Sun II.	C.	10.22	11.08	11.91	12.82	13.81	37 5.92	+ 0.17 + 5.85	— 6.84	2 35 58.99	- - -	L.
	4		E.	55.40	56.28	59.21	0.00	0.98						
	5		A.	38.00	39.28	40.51	44.85	46.00						
	6		B.	12.90	14.48	15.80	17.26	21.36						
	7	α Persei	C.	48.17	49.25	50.88	52.28	53.50	13 50.68	+ 0.86	— 6.83	3 13 44 71	— 6.45	
	8		D.	20.21	24.19	25.65	27.05	28.56						
	9		E.	54.98	56.18	0.46	2.00	3.21						
	10		A.	41.83	42.90	43.69	46.57	47.45						
	11		B.	5.46	6.41	7.51	8.37	11.08						
	12	α Tauri	C.	29.45	30.39	31.22	31.88	33.00	27 31.13	+ 0.18	— 6.79	4 27 24.52	— 5.52	
	13		D.	51.11	53.93	54.87	55.85	56.83						
	14		E.	14.80	15.71	18.29	19.37	20.33						
	15		A.	43.44	44.35	45.32	47.75	48.85						
	16		B.	6.51	7.40	8.36	9.23	12.05						
	17	β Orionis	C.	29.73	30.58	31.31	32.13	33.10	7 31.27	— 0.13	— 6.77	5 7 24.37	— 4.57	
	18		D.	50.54	53.16	54.18	55.23	56.00						
	19		E.	13.82	14.47	17.20	18.03	19.08						
	20		A.	8.12	8.76	9.50	12.62	13.32						
	21		B.	33.32	34.19	35.25	36.29	39.56						
	22	β Tauri	C.	59.64	0.55	1.42	2.32	3.39	17 1.38	+ 0.37	— 6.77	5 16 54.98	— 6.27	
	23		D.	23.28	26.42	27.41	28.27	29.39						
	24		E.	49.11	49.91	53.17	54.16	55.09						
	25		A.	0.69	1.39	2.31	5.20	5.99						
	26		B.	23.41	24.43	25.37	26.57	28.66						
	27	ε Orionis	C.	46.22	47.99	47.74	48.90	49.63	28 47.99	— 0.04	— 6.76	5 28 41.19	— 4.97	
	28		D.	7.22	9.71	10.59	11.56	12.40						
	29		E.	30.09	30.89	33.28	34.21	35.15						
	30		A.	33.51	34.24	35.01	36.48	37.16						
	31		B.	48.35	49.15	49.52	50.25	52.05						
2	32	Polaris	C.	3.25	3.54	4.31	5.02	5.36	4 28.38	+32.11	— 5.14	1 4 55.35	+ 5.21	
	33		D.	17.54	18.34	19.09	19.49	20.21						
	34		E.	31.33	32.05	33.55	34.27	35.04						
	35		A.	51.21	52.20	53.96	56.92	57.88						
	36		B.	15.68	16.68	17.65	18.62	21.33						
	37	γ Pegasi	C.	39.29	40.21	41.13	42.10	43.15	5 41.13	+ 0.16	— 5.18	0 5 36.11	— 5.15	
	38		D.	0.89	3.76	4.56	5.71	6.71						
	39		E.	24.38	25.38	28.00	29.98	31.04						
	40		A.	47.76	48.49	49.17	52.42	53.10						
	41		B.	11.40	12.10	13.00	13.91	17.00						
3	42	Sun I.	C.	35.35	36.00	36.81	37.60	38.53	42 36.84					
	43		D.	57.20	59.82	0.56	1.39	2.31						
	44		E.	20.60	21.29	23.99	25.05	26.00						
	45		A.	0.12	1.11	2.00	4.85	5.77		+0.18	— 5.06	2 43 38.20	- - -	
	46		B.	23.61	24.30	25.33	26.24	29.19						
	47	Sun II.	C.	47.50	48.31	49.21	50.18	51.20	44 49.32					
	48		D.	9.50	12.22	13.00	14.21	14.98						
	49		E.	33.11	33.88	36.81	37.73	38.60						
	50		A.	35.98	37.12	38.73	43.13	44.21						
	51		B.	10.86	12.30	13.48	15.21	19.39						
	52	α Persei	C.	46.40	47.45	48.78	49.92	51.46	13 48.70	+ 0.86	— 5.04	3 13 44.52	— 6.46	
	53		D.	18.27	22.54	23.70	25.17	26.58						
	54		E.	53.00	54.18	58.33	59.93	1 32						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d.	h.	m. s.	s.	s.	s.	s.
May 1	3	— 0 6.83	1 0.028	— 0.195	+ 0.700	+ 0.152
2	7	— 0 5.46	1 0.038	— 0.195	+ 0.700	+ 0.152
3	7	— 0 4.89	1 0.041	— 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	40.09	41.09	41.82	44.72	45.56						
	2		B.	3.59	4.72	5.68	6.70	9.38						
May 3	3	α Tauri	C.	27.62	28.53	29.36	30.25	31.31	27 29.38	+ 0.18	− 4.99	4 27 24.57	− 5.52	L.
	4		D.	49.40	52.12	53.05	54.00	55.00						
	5		E.	12.99	13.95	16.87	17.89	18.76						
	6		A.	41.76	42.71	43.46	46.19	47.21						
	7		B.	4.70	5.44	6.50	7.51	9.98						
	8	β Orionis	C.	28.00	28.72	29.66	30.61	31.48	7 29.57	− 0.13	− 4.97	5 7 24.47	− 4.56	
	9		D.	49.10	51.70	52.53	53.59	54.52						
	10		E.	11.84	12.72	15.48	16.40	17.36						
	11		A.	6.00	6.83	7.90	10.88	11.88						
	12		B.	31.71	32.71	33.62	34.60	37.71						
	13	β Tauri	C.	57.86	58.76	59.71	0.83	1.75	16 59.64	+ 0.37	− 4.96	5 16 55.05	− 6.26	
	14		D.	21.36	24.47	25.54	26.75	27.68						
	15		E.	47.42	48.28	51 30	52.22	53.32						
	16		A.	43.35	44.32	45.13	47.90	48.73						
	17		B.	6.00	7.00	8.00	8.95	11.51						
	18	δ Orionis	C.	28.96	29.82	30.68	31.67	32.52	24 30.71	− 0.03	− 4.95	5 24 25.73	− 4.99	
	19		D.	50.00	52.48	53.46	54.56	55.31						
	20		E.	12.78	13.46	16.21	17.10	18.00						
	21		A.	58.81	59.76	0.62	3.32	4.31						
	22		B.	21.51	22.60	23.50	24.22	26.92						
	23	ε Orionis	C.	44.54	45.30	46.22	47.12	47.95	28 46.18	− 0.04	− 4.95	5 28 41.19	− 4.96	
	24		D.	5.44	8.18	9.00	9.82	10.81						
	25		E.	28.13	28.98	31.56	32.49	33.46						
	26		A.	25.75	26.54	27.49	30.16	30.99						
	27		B.	48.70	49.43	50.41	51.35	54.24						
	28	α Orionis	C.	11.71	12.43	13.50	14.29	15.19	47 13.38	+ 0.06	− 4.94	5 47 8.50	− 5.42	
	29		D.	32.72	35.32	36.19	37.34	38.11						
	30		E.	55.69	56.49	59.28	0.21	1.00						
	31		A.	27.77	28.85	29.78	32.69	33.58						
	32		B.	52.42	53.39	54.40	55.33	58.14						
	33	δ Leonis	C.	17.09	17.98	18.90	19.85	20.80	6 18.79	+ 0.26	− 4.73	11 6 14.32	− 7.00	
	34		D.	39.32	42.25	43.29	44.30	45.21						
	35		E.	3.85	4.71	7.74	8.61	9.58						
	36		A.	13.32	14.39	15.25	17.88	18.79						
	37		B.	36.93	37.90	38.85	39.72	42.30						
	38	δ Hydra Crateris	C.	0.65	1.50	2.31	3.19	3.93	12 2.19	− 0.20	− 4.72	11 11 57.27	− 6 65	
	39		D.	22.02	24.81	25.65	26.46	27.48						
	40		E.	45.25	46.19	49.08	50.00	50.90						
	41		A.	46.51	47.42	48.49	51.21	52.17						
	42		B.	10.19	11.13	12.00	12.87	15.45						
	43	β Leonis	C.	33.81	34.69	35.60	36.42	37.35	41 35.62	+ 0.17	− 4.70	11 41 31.09	− 6.86	
	44		D.	55.42	58.69	59.21	0.35	1.29						
	45		E.	18.98	20.12	22.62	23.68	24.72						
	46		A.	36.13	35.35	35.06	33.14	32.44						
	47		B.	21.26	20.53	20.14	19.38	17.54						
	48	Polaris, S. P.	C.	13.64	6.09	5.35	4.55	14.25	5 35.08	−33.74	− 4.65	1 4 56.69	+ 4.88	
	49		D.	53.03	51.28	50.52	50.18	49.40						
	50		E.	38.34	38.03	36.16	35.38	35.04						
	51		A.	33.50	34.25	35.03	36.49	37.19						
4	52	Polaris	B.	48.37	49.15	49.48	50.21	52.05	4 26.90	+32.11	− 3.34	1 4 56.18	+ 4.10	
	53		D.	16.53	18.33	19.04	19.47	20.19		+ 0.51				
	54		E.	31.33	32.03	33.51	34.24	34.59						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
May 3 7	− 0 4.89	1 0.041	− 0.195	+ 0.700	+ 0.152
4 7	− 0 4.19	1 0.037	− 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	41.10	41.98	42.67	45.41	46.35						
	2		B.	4.40	5.40	6.20	7.08	9.70						
May 5	3	α Virginis	C.	27.65	28.45	29.31	30.29	31.10	17 29.24	− 0.15	− 3.96	13 17 25.13	− 7.31	L.
	4		D.	48.89	51.60	52.50	53.30	54.20						
	5		E.	11.90	12.70	15.32	16.31	17.23						
	6		B.	48.36	49.12	49.47	50.23	52.03						
	7	Polaris	C.	3.25	3.52	4.27	5.03	5.35	4 28.60	+32.10 − 1.70	− 2.55	1 4 56.45	+ 3.56	
	8		D.	16.53	18.37	19.09	19.49	20.18						
	9		A.	27.29	28.29	29.19	32.16	33.14						
	10		B.	51.27	52.11	53.00	54.00	56.90						
	11	Sun I.	C.	15.32	16.20	17.00	17.90	18.86	50 16.93					
	12		D.	37.08	39.75	40.62	41.56	42.52						
	13		E.	0.96	1.78	4.48	5.40	6.31						
	14		A.	40.00	41.03	42.00	44.81	45.73		+0.19	− 3.26	2 51 20.19	. . .	
	15		B.	3.61	4.59	5.67	6.60	9.17						
	16	Sun II.	C.	28.00	28.94	29.81	30.64	31.68	52 29.59					
	17		D.	49.90	52.69	53.45	54.22	55.23						
	18		E.	13.26	14.19	17.22	18.16	19.10						
	19		A.	34.41	35.99	37.09	41.20	42.81						
	20	α Persei	B.	9.42	10.70	12.31	13.58	17.66	13 12.71	+ 0.86 +34.45	− 3.25	3 13 44.77	− 6.48	
	21		C.	44.69	45.69	46.97	48.18	49.91						
	22		A.	38.22	39.13	40.15	43.00	43.63						
	23		B.	1.98	2.93	4.00	5.00	7.68						
	24	α Tauri	C.	26.00	26.81	27.62	28.60	29.47	27 27.61	+ 0.18	− 3.21	4 27 24.58	− 5.52	
	25		D.	47.69	50.22	51.36	52.31	53.27						
	26		E.	11.21	12.12	15.00	15.92	16.91						
	27		A.	39.94	40.90	41.74	44.00	45.21						
	28		B.	2.85	3.93	4.95	5.69	8.40						
	29	β Orionis	C.	26.09	27.06	27.95	28.78	29.66	7 27.77	− 0.13	− 3.19	5 7 24.45	− 4.55	
	30		D.	47.20	49.81	50.70	51.70	52.61						
	31		E.	10.13	11.00	13.79	14.62	15.61						
	32		A.	3.72	4.80	5.97	9.12	10.09						
	33		B.	29.80	30.95	31.91	32.91	35.73						
	34	β Tauri	C.	55.72	56.93	57.85	58.79	59.86	16 57.76	+ 0.37	− 3.19	5 16 54.94	− 6.25	
	35		D.	19.78	22.69	23.57	24.81	25.71						
	36		E.	45.48	46.29	49.50	50.40	51.60						
	37		A.	57.00	58.00	58.82	1.54	2.53						
	38		B.	19.92	20.78	21.71	22.51	25.32						
	39	ε Orionis	C.	42.84	43.69	44.60	45.38	46.23	28 44.42	− 0.04	− 3.18	5 28 41.20	− 4.95	
	40		D.	3.60	6.13	7.16	8.05	9.00						
	41		E.	26.48	27.26	29.81	30.58	31.51						
	42		A.	23.87	24.80	25.75	28.38	29.12						
	43		B.	47.00	47.90	48.86	49.80	52.21						
	44	α Orionis	C.	9.98	10.62	11.75	12.71	13.58	47 11.67	+ 0.06	− 3.17	5 47 8.56	− 5.41	
	45		D.	31.00	33.71	34.62	35.52	36.53						
	46		E.	54.00	54.84	57.61	58.52	59.12						
	47		A.	26.00	27.08	28.11	31.00	32.00						
	48		B.	50.87	51.74	52.56	53.54	56.41						
	49	δ Leonis	C.	15.29	16.09	17.08	18.05	19.05	6 17.03	+ 0.26	− 3.00	11 6 14.59	− 6.98	
	50		D.	37.61	40.45	41.41	42.40	43.45						
	51		E.	2.16	3.00	5.65	6.79	7.90						
	52		A.	11.55	12.50	13.44	16.26	17.08						
	53		B.	35.14	36.00	36.98	37.97	40.46						
	54	δ Hydra Crateris	C.	58.82	59.62	0.44	1.40	2.27	12 0.44	− 0.20	− 3.00	11 11 57.24	− 6.63	
	55		D.	20.12	23.00	24.00	24.90	25.80						
	56		E.	43.81	44.68	47.13	48.35	49.36						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
May 5 7	− 0 3.13	1 0.032	− 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	37.88	38.71	39.69	42.35	43.11						
	2		B.	0.80	1.67	2.61	3.63	6.09						
May 5	3	Virginis (3975)	C.	23.75	24.70	25.65	26.50	27.29	36 25.46	— 0.10	— 2.98	11 36 22.38	— 6.84	L.
	4		D.	44.90	47.50	48.43	49.23	50.12						
	5		E.	7.50	8.33	11.05	12.00	13.00						
	6		A.	44.54	45.69	46.66	49.53	50.42						
	7		B.	8.38	9.44	10.30	11.30	13.85						
	8	β Leonis	C.	32.25	33.00	34.00	35.00	35.82	41 33.94	+ 0.17	— 2.98	11 41 31.13	— 6.85	
	9		D.	53.88	56.75	57.68	58.31	59.38						
	10		E.	17.49	18.25	21.24	22.12	23.14						
	11		A.	42.34	43.94	45.63	50.19	51.94						
	12		B.	21.79	23.48	25.00	26.46	31.22						
	13	γ Ursæ Majoris	C.	1.30	2.99	4.45	6.00	7.46	46 4.24	+ 1.06	— 2.98	11 46 2.32	— 7.58	
	14		D.	37.42	41.66	43.19	45.30	46.54						
	15		E.	16.51	18.02	22.79	24.46	26.00						
	16		A.	32.06	33.22	34.83	38.81	40.14						
	17		B.	7.05	9.04	10.48	12.00	15.82						
	18	η Ursæ Majoris	C.	43.51	44.56	46.00	47.54	49.00	41 45.81	+ 0.88	— 2.91	13 41 43.78	— 6.45	
	19		D.	15.71	20.00	21.13	22.58	24.00						
	20		E.	50.98	52.43	56.66	58.19	59.60						
	21		A.	51.43	53.00	53.86	56.90	57.70						
	22		B.	15.98	16.82	17.78	18.68	21.67						
	23	η Bootis	C.	40.12	41.06	42.00	43.00	43.88	47 42.00	+ 0.23	— 2.91	13 47 39.32	— 6.91	
	24		D.	2.31	5.10	6.22	7.22	8.14						
	25		E.	26.47	27.40	30.13	31.12	32.14						
	26		A.	36.13	35.35	34.56	33.19	32.39						
	27		B.	21.26	20.54	20.17	19.45	18.00						
	28	Polaris S. P.	C.	6.35	6.05	5.39	5.04	4.30	5 33.28	—33.73	— 2.94	13 4 56.61	+ 3.88	
	29		D.	53.06	51.28	50.55	50.18	49.43						
	30		E.	38.23	37.45	35.58	35.25	34.54						
6	31	Polaris	C.	3.24	3.57	4.28	5.03	5.32	4 28.80	+32.10 — 1.39	— 1.85	1 4 57.66	+ 3.06	
	32		A.	39.40	40.30	41.32	44.00	45.00						
	33		B.	2.48	3.48	4.40	5.42	8.00						
	34	α Virginis	C.	26.00	26.70	27.54	28.54	29.40	17 27.60	— 0.15	— 2.26	13 17 25.19	— 7.42	K.
	35		D.	47.26	49.88	50.76	51.74	52.66						
	36		E.	10.22	11.11	13.84	14.78	15.76						
	37		A.	31.12	32.64	34.00	38.30	39.49						
	38		B.	7.00	8.17	9.72	11.12	15.24						
	39	η Ursæ Majoris	C.	42.51	43.81	45.28	46.61	48.00	41 45.13	+ 0.88	— 2.25	13 41 43.76	— 6.45	
	40		D.	15.26	19.28	20.60	22.24	23.52						
	41		E.	50.55	51.60	56.11	57.31	58.66						
	42		A.	51.24	52.24	53.16	56.00	57.00						
	43		B.	15.36	16.39	17.26	18.34	21 08	47 29.57	+ 0.23	— 2.25	13 47 39.40	— 6.91	
	44	η Bootis	C.	39.72	40.54	41.36	42.26	43.31		+11.85				
	45		D.	1.86	4.70	5.54	6.51	7.48						
	46		A.	59.00	0.00	0.97	3.74	4.77						
	47		B.	23.70	24.82	25.82	26.86	29.66						
	48	α Arietis	C.	48.60	49.42	50.45	51.32	52.30	58 50.38	+ 0.28	— 1.81	1 58 48.85	— 5.40	L.
	49		D.	11.18	14.15	15.00	16.17	17.06						
	50		E.	35.82	36.67	39.67	40.49	41.77						
	51		A.	22.25	23.39	24.19	27.10	28.00						
	52		B.	46.18	47.24	48.06	49.00	52.00						
7	53	Sun II.	C.	10.25	11.15	12.00	13.00	14.00	0 12.05	+ 0.19	— 1.80	2 59 3.93	. . .	
	54		D.	32.46	35.00	36.00	37.00	37.97						
	55		E.	56.00	57.00	59.72	0.70	1.55						

53. Cor. for Semidiameter = —66s. 51.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
May 5 7	— 0 3.13	1 0.032	— 0.195	+ 0.700	+ 0.152
6 7	— 0 2.46	1 0.031	— 0.195	+ 0.700	+ 0.152
7 7	— 0 1.60	1 0.035	— 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	32.94	34.06	35.52	39.80	41.08						
	2		B.	8.02	9.14	10.60	12.00	15.86						
May 7	3	α Persei	C.	43.27	44.32	45.77	47.00	48.37	13 45.53	+ 0.86	− 1 73	2 13 44.66	− 6.49	L.
	4		D.	15.90	19.06	20.52	21.92	23.05						
	5		E.	50.00	51.00	55.35	56.60	58.00						
	6		A.	36.82	37.82	38.54	41.34	42.36						
	7		B.	0.49	1.34	2.23	3.30	6.00						
	8	α Tauri	C.	24.33	25.09	26.03	27.00	27.90	27 26.02	+ 0.18	− 1.69	4 27 24.51	− 5.52	
	9		D.	46.00	48.70	49.56	50.84	51.75						
	10		E.	9.69	10.60	13.37	14.14	15.14						
	11		B.	9.55	10.80	12.42	13.60	17.38						
	12		C.	42.48	43.52	44.82	46.08	47.32		+ 0.75				
	13	α Aurigæ	D.	12.49	16.42	17.33	18.92	20.11	6 0.91	−16.10	− 1.67	5 5 43.89	− 7.12	
	14		E.	45.00	46.13	50.00	51.37	52.48						
	15		A.	40.00	41.00	41.85	44.55	45.37						
	16		B.	3.00	3.77	4.64	5.52	8.20						
	17	δ Orionis	C.	25.76	26.43	27.30	28.26	29.08	24 27.38	− 0.03	− 1.66	5 24 25.69	− 4.97	
	18		D.	46.33	49.26	50.00	51.00	52.00						
	19		E.	9.35	10.17	13.00	13.80	14.87						
	20		A.	55.47	56.32	57.22	0.14	1.00						
	21		B.	18.23	19.12	20.13	21.00	23.61						
	22	ε Orionis	C.	41.29	42.00	42.98	43.77	44.83	28 42.86	− 0.04	− 1.65	5 28 41.17	− 4.94	
	23		D.	2.00	4.79	5.56	6.58	7.48						
	24		E.	24.79	25.56	28.44	29.22	30.10						
	25		A.	22.32	23.23	24.00	27.00	27.71						
	26		B.	45.29	46.16	47.10	48.00	50.76						
	27	α Orionis	C.	8.18	9.19	10.06	11.00	12.00	47 10.05	+ 0.06	− 1.64	5 47 8.46	− 5.39	
	28		D.	29.33	32.00	33.00	34.00	35.00						
	29		E.	52.26	53.10	55.97	56.90	57.79						
	30		A.	50.76	53.00	54.99	1.08	2.80						
	31		B.	18.49	20.72	22.69	24.74	30.09						
	32	α Ursæ Majoris	C.	40.33	42.44	44.53	46.55	52.22	53 46.24	+ 1.49	− 1.46	10 53 46.27	− 8.44	
	33		D.	8.52	10.00	12.06	13.99	15.92						
	34		E.	30.33	32.06	33.94	35.89	37.80						
	35		A.	24.67	25.80	26.75	29.38	30.60						
	36		B.	49.25	50.09	51.20	52.12	55.00						
	37	δ Leonis	C.	13.74	14.56	15.47	16.54	17.43	6 15.57	+ 0.26	− 1.46	11 6 14.37	− 6.96	
	38		D.	36.11	39.13	40.06	41.06	42.00						
	39		E.	0.72	1.63	4.34	5.36	6.32						
	40		A.	10.00	11.19	12.12	14.80	15.74						
	41		B.	33.67	34.51	35.54	36.42	39.00						
	42	δ Hydræ et Crateris	C.	57.39	58.21	59.00	0.05	0.98	11 58.98	− 0.20	− 1.46	11 11 57.32	− 6.58	
	43		D.	18.76	21.55	22.36	23.41	24.25						
	44		E.	42.00	43.00	46.00	46.75	47.76						
	45		A.	28.19	29.15	30.20	33.47	34.52						
	46		B.	54.90	55.98	57.12	58.04	1.19						
	47	Hydræ (3969)	C.	22.00	23.00	23.89	24.85	25.95	34 23.85	− 0.44	− 1.44	11 34 21.97	− 6.87	
	48		D.	46.46	49.58	50.61	51.78	53.00						
	49		E.	13.13	14.05	17.33	18.35	19.33						
	50		A.	43.25	44.19	45.00	47.90	48.75						
	51		B.	6.80	7.86	8.60	9.67	12.40						
	52	β Leonis	C.	30.58	31.55	32.36	33.25	34.00	41 32.32	+ 0.17	− 1.44	11 41 31.05	− 6.83	
	53		D.	52.33	55.11	55.92	56.88	57.80						
	54		E.	15.82	16.70	19.56	20.35	21.25						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
May 7 7	− 0 1.60	1 0.035	− 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		C.	59.87	1.10	2.56	4.35	5.71						
May 7	2	γ Ursæ Majoris	D.	35.90	40.25	42.00	43.69	45.25	46 41.31	+ 1.06 −38.63	− 1.43	11 46 2.31	− 7.54	L.
	3		E.	15.00	16.24	21.24	22.41	24.00						
	4	Polaris, S. P.	C.	6.45	6.10	5.35	4.59	4.32	5 36.20	−33.73 + 1.39	− 1.39	13 5 2.47	+ 2.84	
13	5	Polaris, S. P.	C.	36.35	6.04	5.29	4.58	4.24	5 30.00	−33.73 + 1.39	+ 3.29	13 5 0.95	+ 0.21	
	6		A.	31.59	32.44	33.40	36.00	37.00						
	7		B.	54.40	55.20	56.20	57.21	59.83						
	8	Virginis (3975)	C.	17.60	18.26	19.13	19.98	20.84	36 19.13	− 0.10	+ 3.26	11 36 22.29	− 6.78	
	9		D.	38.51	41.18	42.00	42.96	43.96						
	10		E.	1.10	2.10	4.99	5.72	6.66						
	11		A.	38.10	39.20	40.10	42.97	43.99						
	12		B.	1.96	2.88	3.88	4.78	7.50						
	13	β Leonis	C.	25.80	26.65	27.54	28.50	29.32	41 27.46	+ 0.17	+ 3.26	11 41 30.89	− 6.79	
	14		D.	47.50	50.30	51.21	52.24	52.99						
	15		E.	10.00	11.91	14.98	15.72	16.48						
	16	γ Ursæ Majoris	D.	30.86	35.18	36.97	38.47	40.08	46 56.08	+ 1.06 −57.91	+ 3.26	11 46 2.49	− 7.42	
	17		E.	10.00	12.50	17.30	18.70	20.16						
	18		A.	2.76	3.64	4.60	7.30	8.12						
	19		B.	25.78	26.92	27.88	28.65	31.38						
	20	Virginis (4114)	C.	49 40	50.21	50.99	51.86	52.90	5 51.00	+ 0.11	+ 3.27	12 5 54.38	− 6.90	
	21		D.	10.55	13.40	14.16	15.20	16.14						
	22		E.	33.82	34.61	37.37	38.20	39.11						
	23		A.	26.66	27.52	28.52	31.55	32.58						
	24		B.	52.76	53.68	54.64	55.61	58.96						
	25	Cornæ (4147)	C.	18.98	19.81	20.79	21.85	22.80	12 20.84	+ 0.39	+ 3.27	12 12 24.50	− 6.97	
	26		D.	43.10	45.90	47.00	48.10	49.00						
	27		E.	9.10	9.90	13.00	14.00	15.06						
	28		A.	26.00	27.18	28.22	30.80	31.65						
	29		B.	48.99	49.94	50.82	51.72	54.42						
	30	Virginis (4200)	C.	12.05	12.90	13.76	14.66	15.40	20 13.70	− 0.07	+ 3.28	12 20 16.91	− 6.99	
	31		D.	33.18	35.69	36.51	37.40	38.33						
	32		E.	55.79	56 56	59.30	0.15	1.22						
	33		A.	43.82	44.92	45.98	49.00	49.90						
	34		B.	8.49	9.40	10.60	11.48	14.51						
	35	β Corvi	C.	33.30	34.10	35.20	36.30	37.20	26 35.33	− 0.31	+ 3.28	12 26 38.30	− 7.26	
	36		D.	56.00	59.05	0.08	1.00	1.99						
	37		E.	20.86	21.59	24.58	26.59	27.26						
	38		A.	4.92	5.72	6.66	9.30	10.15						
	39	Virginis (4294)	B.	27.60	28.64	29.54	30.52	32.08	39 41.11	− 0.10 +11.24	+ 3.28	12 39 55.53	− 7.13	
	40		C.	50.62	51.60	52.42	53.32	54.10						
	41		D.	11.90	14.30	15.20	16.44	17.22						
	42		B.	31.99	32.61	33.70	35.00	38.35						
	43	12 Canis Venat.	C.	1.11	2.10	3.13	4.50	5.49	49 17.62	+ 0.58 −14.46	+ 3.29	12 49 7.03	− 6.78	
	44		D.	27.84	31.30	32.74	33.65	34.79						
	45		E.	57.30	58.20	1.70	2.94	4.00						
	46		A.	33.88	34.90	35.92	38.30	39.32						
	47		B.	56.96	58.00	58.38	59.78	2.54						
	48	α Virginis	C.	19.96	21.24	22.20	23.00	24.00	17 22.04	− 0.15	+ 3.30	13 17 25.19	− 7.41	
	49		D.	41.59	44.14	45.14	46.12	47.19						
	50		E.	4.42	5.54	8.38	9.24	10.30						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
May. 7 7	− 0 1.60	1 0.035	− 0.195	+ 0.700	+ 0.152
13 12	+ 0 3.27	1 0.023	− 0.195	+ 0.700	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	25.58	27.04	28.34	32.94	34.15						
	2		B.	1.06	2.72	3.98	5.35	9.70						
May 13	3	η Ursæ Majoris	C.	36.07	38.30	39.88	41.08	42.62	41 39.49	+ 0 88	+ 3.31	13 41 43.68	— 6.40	L.
	4		D.	9.37	13.16	14.82	16.52	17.62						
	5		E.	44.84	46..30	50.60	51.72	53.46						
	6		A.	45.51	46.38	47.40	50.38	51.26						
	7		B.	9.96	10.84	11.71	12.70	15.41						
	8	η Bootis	C.	34.25	35.09	36.00	36.98	37.75	47 35.80	+ 0.23	+ 3.31	13 47 39.34	— 6.91	
	9		D.	56.08	58.95	59.86	0.80	1.80						
	10		E.	20.10	21.09	23.89	25.00	25.92						
	11		A.	2.30	3.79	4.72	7.30	8.13						
	12		B.	26.90	27.87	28.88	29.80	32.50						
	13	α Bootis	C.	51.06	52.30	53.40	54.26	55.10	8 53.10	+ 0.24	+ 3.32	14 8 56.66	— 6.70	
	14		D.	13.29	16.09	17.10	18 20	20.29						
	15		E.	37.62	38.60	41.66	42.60	43.62						
16	16	Polaris	C.	3.31	4.04	4.41	5.11	5.44	4 38.20	+32.09 — 1.39	+ 4.00	1 5 12.90	— 2.87	
	17		A.	42.81	43.80	44.77	47.67	48.65						
	18		B.	7.58	8.45	9.47	10.38	13.27						
20	19	β Corvi	C.	32.40	33.23	34.10	35.10	36.05	26 34.12	— 0.96	+ 4.84	12 26 38.00	— 7.20	K.
	20		D.	55.00	57.85	58.93	59.88	0.80						
	21		E.	19.55	20.39	23.40	24.30	25.29						
	22		A.	53.31	54.30	55.29	58.44	59.29						
	23		B.	17.98	18.89	19.97	20.92	23.84						
	24	α Arietis	C.	42.90	43.69	44.55	45.50	46.58	58 44.67	— 0.22	+ 4.83	1 58 49.28	— 5.64	L.
	25		D.	5.42	8.37	9.20	10.40	11.28						
	26		E.	30.31	31.19	34.14	35.00	35.98						
	27		B.	2.05	3.70	5.03	6.15	9.99						
	28	α Persei	C.	37.55	38.59	39.82	41.17	42.61	13 57.06	+ 0.36 —17.20	+ 4.83	3 13 45.05	— 6.70	
	29		D.	9.41	13.30	14.78	16.45	17.98						
	30		E.	44.09	45.30	49.74	51.11	52.47						
	31		C.	3.12	4.14	5.11	6.09	7.00						
21	32	Sun I.	D.	25.47	28.36	29.14	29.99	30.86	53 28.92	— 0.26 —23.96				
	33		E.	50.03	50.87	53.74	54.51	55.44						
	34		A.	29.72	30.68	31.52	34.58	35.47			+4.70	3 54 17.18	. . .	
	35		B.	54.20	55.21	56.09	57.13	59.91						
	36	Sun II.	C.	19.00	19.87	20.75	21.64	22.51	55 20.52	— 0.26				
	37		D.	41.25	44.00	44.96	46.00	47.00						
	38		E.	5.32	6.26	9.02	9.99	11.00						
	39		A.	56.61	57.35	58.40	1.45	2.52						
	40		B.	22.32	23.47	24.40	25.53	28.48						
	41	β Tauri	C.	48.79	49.71	50.57	51.48	52.47	16 50.41	— 0.12	+ 4 70	5 16 54.99	— 6.23	
	42		D.	12.27	15.40	16.30	17.29	18.37						
	43		E.	38.20	39.20	42.25	43.11	44.21						
	44		A.	49.46	50.72	51.56	54.00	55.00						
	45		B.	12.47	13.35	14.46	15.37	17.72						
	46	ε Orionis	C.	35.39	36.18	37.08	37.96	38.85	28 37.04	— 0.59	+ 4.70	5 28 41.15	— 4.91	
	47		D.	56.10	59.10	59.98	0.72	1.57						
	48		E.	18.86	19.73	22.51	23.41	24.51						
	49		A.	43.26	44.48	45.29	48.00	49.00						
	50		B.	6.98	8.00	8.93	9.92	12.54						
	51	α Canis Majoris	C.	31.00	31.90	32.76	33.69	34.56	38 32.72	— 0.84	+ 4.70	6 38 36.58	— 4.24	
	52		D.	52.80	55.63	56 56	57.45	58.31						
	53		E.	16.45	17.26	20.13	21.09	22 00						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
May 13	12	+ 0 3.27 l	0.023	— 0.195	+ 0.700	+ 0.152
16	12	+ 0 3.86 l	0.012	— 0 195	+ 0.700	+ 0.152
20	12	+ 0 4 84 g	0.005	— 0.405	+ 0.881	+ 0.152
21	6	+ 0 4.70 g	0.008	— 0.405	+ 0.881	+ 0.152

19. From May 20 to June 4, inclusive, observed wito Clamp East.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	49.83	50.82	52.78	54.85	55.80						
	2		B.	15.79	16.76	17.71	18.80	22.12						
May 21	3	ε Canis Majoris	C.	42.00	42.98	43.82	44.88	45.91	52 43.82	— 1.08	+ 4.70	6 52 47.44	— 3.64	L.
	4		D.	5.89	8.93	9.74	10.93	11.93						
	5		E.	31.63	32.52	35.64	36.72	37.71						
	6		A.	35.79	36.92	37.77	41.00	41.88						
	7		B.	1.52	2.50	3.63	4.53	7.60						
24	8	ε Bootis	C.	27.52	28.29	29.37	30.41	31.36	38 29.32	— 0.12	+ 3.57	14 38 32.77	— 6.65	
	9		D.	51.08	54.12	54.98	56.10	57.12						
	10		E.	16.73	17.56	20.72	21.70	22.70						
	11		B.	14.99	15.92	16.87	17.83	20.61						
	12		C.	38.90	39.63	40.58	41.43	42.34		— 0.82				
	13	α^2 Libræ	D.	0.50	3.29	4.12	5.11	6.00	42 52.14	—11.61	+ 3.57	14 42 43.28	— 8.01	K.
	14		E.	23.97	24.86	27.62	28.62	29.52						
	15		A.	21.88	22.93	23.82	26.70	27.67						
	16		B.	46.38	47.35	48.25	49.27	52.30						
25	17	Sun I.	C.	11.12	11.98	12.92	13.80	14.79	9 12.83					
	18		D.	33.50	36.45	37.26	38.13	39.19						
	19		E.	58.14	58.98	1.79	2.56	3.54						
	20		A.	37.81	38.59	39.54	42.58	43.51		-0.25	+ 3.59	4 10 24.08	- - -	L.
	21		B.	2.15	3.10	4.00	5.00	8.05						
	22	Sun II.	C.	26.85	27.81	28.69	29.62	30.62	11 28.66					
	23		D.	49.19	52.39	53.31	54.26	55.18						
	24		E.	13.72	14.57	17.70	18.70	19.59						
	25		A.	38.45	39.50	40.43	43.19	44.13						
	26		B.	2.10	3.09	4.00	5.00	7.81						
	27	β Leonis	C.	26.09	26.97	27.77	28.63	29.61	41 27.66	— 0.34	+ 3.59	11 41 30.91	— 6.65	
	28		D.	47.53	50.35	51 22	52.15	53.08						
	29		E.	11.09	11.98	14.82	15.72	16.69						
	30		A.	2.59	3.72	4.60	7.32	8.22						
	31		B.	26.08	27.00	28.12	28.96	31.39		— 0.40				
	32	Virginis (4114)	C.	49.40	50.22	51.00	51.98	52.85	5 39.64	+11.43	+ 3.59	12 5 54.26	— 6.80	
	33		D.	10.62	13.37	14.25	15.11	16.10						
	34		A.	45.15	46.75	47.82	50.62	51.65						
	35		B.	10.57	11.76	12.73	13.81	16.61						
	36	Corvi (4173)	C.	35.75	36.71	37.65	38.63	39.61	15 37.62	— 0.98	+ 3.59	12 15 40.23	— 7.09	
	37		D.	58.74	1.71	2.67	3.73	4.62						
	38		E.	23.65	24.50	27.46	28.35	29.27						
	39		B.	49.33	50.18	51.12	51.98	54.53						
	40		C.	12.19	13.11	14.06	14.96	15.85		— 0.63				
	41	Virginis (4200)	D.	33.40	35.90	36.83	37.88	38.70	20 25.21	—11.22	+ 3.59	12 20 16.95	— 6.90	
	42		E.	55.99	56.92	59.52	0.43	1.36						
	43		A.	44.08	45.13	46.07	49.03	50.00						
	44		B.	8.81	9.61	10.77	11.90	14.83						
	45	β Corvi	C.	33.87	34.63	35.59	36.59	37.51	26 35.47	— 0.96	+ 3.59	12 26 38.10	— 7.16	
	46		D.	56.29	59.12	0.20	1.16	2.17						
	47		E.	20.72	21.92	24.55	25.62	26.60						
	48		A.	1.97	3.12	4.21	7.83	8.87						
	49		B.	31.31	32.41	33.81	34.90	38.28						
	50	12 Can. Venat.	C.	0.90	1.82	2.93	4.15	5.40	49 3.01	+ 0.10	+ 3.59	12 49 6.70	— 6.65	
	51		D.	27.60	31.20	32.36	33.69	34.86						
	52		E.	57.00	58.12	1.68	2.90	4.05						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
May 21 6	+ 0 4.70	g 0.008	— 0.405	+ 0.881	+ 0.152
24 12	+ 0 3.58	g 0.003	— 0.405	+ 0.881	+ 0.152
25 12	+ 0 3.59	g 0.000	— 0.405	+ 0.881	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	44.58	45.47	46.29	48.90	49.81						
	2		B.	7.48	8.46	9.22	10.17	12.69						
June 1	3	α Canis Minoris	C.	30.38	31.22	32.09	33.09	33.97	31 32.10	− 0.49	+ 0.55	7 31 32.16	− 4.43	L.
	4		D.	51.49	54.09	54.93	55.92	56.82						
	5		E.	14.10	15.07	17.94	18.70	19.59						
	6		A.	19.89	20.86	21.75	25.00	25.97						
	7		B.	45.75	46.65	47.74	48.72	51.73						
	8	β Geminorum	C.	11.89	12.76	13.66	14.57	15.56	36 13.63	− 0.12	+ 0.55	7 36 14.06	− 6.40	
	9		D.	35.62	38.44	39.36	40.53	41.52						
	10		E.	1.36	2.16	5.41	6.29	7.50						
	11		A.	18.80	19.73	20.87	23.72	24.56						
	12		B.	43.55	44.52	45.53	46.52	49.52						
5	13	Sun I.	C.	8.90	9.73	10.56	11.49	12.34	54 10.48					
	14		D.	31.66	34.62	35.43	36.40	37.41						
	15		E.	56.23	57.14	0.00	0.89	1.87		+0.23	− 1.19	4 55 18.24	- -	
	16		A.	36.43	37.42	38.34	41.49	42.51						
	17		B.	1.09	2.11	3.05	4.05	7.25						
	18	Sun II.	C.	26.10	27.05	28.00	28.83	29.72	56 27.91					
	19		D.	48.88	51.72	52.63	53.59	54.68						
	20		E.	13.35	14.22	17.49	18.30	19.42						
	21		A.	37.98	38.94	39.83	42.40	43.49						
	22		B.	0.90	2.11	3.08	3.88	6.59						
	23	β Orionis	C.	24.20	25.05	25.87	26.78	27.70	7 25.93	− 0.20	− 1.19	5 7 24.54	− 4.61	
	24		D.	45.25	47.83	48.90	49.95	50.90						
	25		E.	8.41	9.23	12.05	13.05	13.99						
	26		A.	39.70	40.56	41.47	44.40	45.26						
	27		B.	2.54	3.46	4.40	5.46	7.87		− 0.10				
	28	δ Orionis	D.	46.49	49.37	50.25	51.13	52.00	24 27.24	+ 0.04	− 1.20	5 24 25.98	− 5.00	
	29		E.	9.19	9.99	12.86	13.76	14.61						
	30		B.	18.12	19.30	20.31	21.20	23.60						
	31		C.	41.50	42.30	43.09	43.74	44.70		− 0.11				
	32	ε Orionis	D.	2.16	4.63	5.89	7.12	8.00	28 54.27	−11.23	− 1.20	5 28 41.73	− 4.97	
	33		E.	24.88	25.88	28.67	29.65	30.60						
	34		A.	21.73	22.70	23.72	26.24	27.41						
	35		B.	44.72	45.74	46.62	47.53	50.06		0.00				
	36	α Orionis	C.	7.99	8.87	9.71	10.59	11.53	46 58.32	+11.29	− 1.21	5 47 8.40	− 5.40	
	37		D.	29.00	31.60	32.53	33.55	34.46						
	38		A.	48.11	49.36	50.19	52.97	54.00						
	39		B.	12.12	12.97	13.88	14.88	17.67						
	40	α Canis Majoris	C.	36.11	36.90	37.72	38.52	39.58	38 37.72	− 0.31	− 0.79	6 38 36.62	− 4.19	
	41		D.	57.79	0.54	1.48	2.58	3.45						
	42		E.	21.45	22.24	25.22	26.12	27.11						
	43		A.	6.15	7.30	8.34	10.97	12.00						
	44		B.	30.43	31.39	32.44	33.49	36.17						
	45	α Bootis	C.	54.51	55.60	56.54	57.48	58.48	8 56.58	+ 0.19	− 0.93	14 8 55.84	− 6.64	
	46		D.	17.00	19.79	20.74	21.83	22.87						
	47		E.	41.10	42.00	45.03	45.90	46.94						
	48		A.	53.20	54.56	55.29	57.66	58.65						
	49		B.	16.00	17.02	18.03	19.00	21.52						
	50	Virginis (1786)	C.	39.24	40.12	40.97	41.81	42.69	19 40.91	− 0.16	− 0.93	14 19 39.82	− 7.56	
	51		D.	0.41	3.02	3.82	4.64	5.59						
	52		E.	23.00	23.94	26.54	27.46	28 52						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
June 1	6	+ 0 0.57 g	0.012	− 0.405	+ 0.881	+ 0.152
5	6	− 0 1.21 g	0.018	− 0.230	+ 0.744	+ 0.152
5	12	− 0 0.89 g	0.018	− 0.230	+ 0.744	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	0.14	1.42	2.51	3.57	6.59						
	2		C.	26.59	27.80	28.90	29.88	30.83		+ 0.38				
June 5	3	ϱ Bootis	D.	51.40	54.45	55.35	56.60	57.70	25 41.95	—13.10	— 0.93	14 25 28.30	— 6.54	L.
	4		E.	17.62	18.89	21.70	22.94	24.12						
	5		A.	39.86	40.80	41.81	44.85	46.00						
	6		B.	5.60	6.78	7.66	8.63	11.47						
	7	ε Bootis	C.	31.31	32.22	33.12	34.30	35.29	38 33.31	+ 0.32	— 0.93	14 38 32.70	— 6.62	
	8		D.	55.22	58.00	58.99	59.98	1.30						
	9		E.	20.72	21.70	24.70	25.74	26.78						
	10		A.	43.65	44.82	46.00	48.48	49.50						
	11		B.	7.65	8.60	9.44	10.39	13.13						
	12	α^1 Libræ	C.	31.60	32.37	33.26	34.14	35.00	42 33.08	— 0.29	— 0.94	14 42 31.85	— 8.05	
	13		D.	53.20	55.74	56.65	57.65	58.65						
	14		E.	16.44	17.35	20.00	21.19	22.10						
	15		A.	55.44	56.44	57.34	0.11	1.00						
	16		B.	19.09	19.96	21.00	22.00	24.52						
	17	α^2 Libræ	C.	42.92	43.75	44.60	45.46	46.36	42 44.55	— 0.29	— 0.94	14 42 43.32	— 8.02	
	18		D.	4.56	7.11	8.09	9.07	10.08						
	19		E.	28.13	29.00	31.56	32.64	33.48						
	20		A.	0.18	1.21	2.00	5.03	6.00						
	21		B.	24.40	25.28	26.30	27.14	30.00						
	22	Libræ (4995)	C.	48.52	49.58	50.52	51.44	52.29	3 50.37	— 0.35	— 0.94	15 3 49.08	— 8.35	
	23		D.	10.48	13.36	14.44	15.51	16.48						
	24		E.	34.78	35.75	38.60	39.48	40.49						
	25		A.	17.36	18.36	19.22	21.96	22.69						
	26		B.	40.51	41.46	42.36	43.20	46.00						
	27	β Libræ	C.	4.00	4.74	5.52	6.40	7.30	9 5.42	— 0.21	— 0.95	15 9 4.26	— 7.89	
	28		D.	24.98	27.34	28.37	29.52	30.60						
	29		E.	47.91	48.72	51.38	52.31	53.37						
	30		A.	36.22	37.23	38.33	41.00	41.90						
	31		B.	59.90	0.63	1.66	2.57	5.28						
	32	Serpentis (5067)	C.	23.40	24.15	25.14	25.98	26.98	15 25.03	+ 0.08	— 0.95	15 15 24.16	— 7.12	
	33		D.	44.85	47.50	48.40	49.28	50.25						
	34		E.	8.00	8.76	11.82	12.70	13.70						
	35		A.	24.76	25.63	26.73	29.28	30.07						
	36		B.	47.44	48.52	49.50	50.39	52.64						
	37	Serpentis (5095)	C.	10.57	11.36	12.29	13.00	13.76	21 12.18	— 0.06	— 0.95	15 21 11.17	— 7.52	
	38		D.	31.52	34.14	35.00	35.85	36.84						
	39		E.	54.30	55.06	57.74	58.62	59.48						
	40		A.	34.00	35.41	36.21	39.28	40.07						
	41		B.	59.57	0.63	1.70	2.82	5.88						
	42	α Coronæ Borealis	C.	25.55	26.58	27.76	28.62	29.63	28 27.47	+ 0.31	— 0.95	15 28 26.83	— 6.61	
	43		D.	49.10	52.24	53.14	54.09	55 04						
	44		E.	14.87	15.74	18.60	19.47	20.87						
	45		A.	13.15	14.23	15.21	18.13	19.00						
	46		B.	36.54	37.24	38.20	39.13	41.88						
	47	α Serpentis	C.	59.40	0.32	1.14	2.00	2.98	37 1.13	— 0.03	— 0.95	15 37 0.15	— 7.38	
	48		D.	20.42	23.19	24.03	25.07	26.00						
	49		E.	43.36	44.18	47.00	47.80	48.74						
	50		A.	8.00	9.12	10.11	12.87	13.87						
	51		B.	32.30	33.46	34.39	35.53	38.14						
9	52	α Bootis	C.	56.82	57.57	58.63	59.60	0.51	8 58.55	+ 0.19	— 2.89	14 8 55.85	— 6.62	
	53		D.	18.91	21.80	22.73	23.75	24.77						
	54		E.	42.92	43.93	47.11	47.98	48.96						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
June 5 15	— 0 0.94	g 0.018	— 0.230	+ 0.744	+ 0.152
9 15	— 0 2.91	g 0.020	— 0.230	+ 0.744	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
June 9	1		A.	41.57	42.71	43.73	46.72	47.75						
	2		B.	7.31	8.54	9.53	10.66	13.56						
	3	ε Bootis	C.	33.55	34.40	35.41	36.32	37.30	38 35.25	+ 0.32	— 2.90	14 38 32.67	— 6.60	L.
	4		D.	57.00	0.00	0.82	2.09	3.11						
	5		E.	22.49	23.59	26.75	27.71	28.72						
	6		A.	45.98	46.86	47.83	50.67	51.50						
	7		B.	9.49	10.51	11.43	12.39	15.06						
	8	α^1 Libræ	C.	33.32	34.11	35.11	36.08	37.00	42 35.07	— 0.29	— 2.90	14 42 31.88	— 8.03	
	9		D.	55.00	57.53	58.71	59.83	0.70						
	10		E.	18.50	19.42	22.40	23.28	24.11						
	11		A.	57.34	58.29	59.20	1 90	2.77						
	12		B.	21.00	22.06	23.05	23.88	26.48						
	13	α^2 Libræ	C.	44.69	45.52	46.42	47.45	48.34	42 46.47	— 0.29	— 2.90	14 42 43.28	— 8.02	
	14		D.	6.44	9.00	10.14	11.15	12.15						
	15		E.	29.98	30.92	33.52	34.58	35.58						
	16		A.	25.97	26.79	27.75	30.00	31.00						
	17		B.	49.30	50.26	51.31	52.20	55.00						
	18	Jupiter I.	C.	13.22	14.15	14.94	15.75	16.57	50 14.82	— 0.29	— 2.91	14 50 13.14	. .	
	19		D.	34.72	37.60	38.30	39.29	40.32						
	20		E.	58.31	59.08	1.96	2.83	3.73						
	21		A.	23.57	24.48	25.62	29.39	30.41						
	22		B.	53.43	54.58	55.73	57.00	0.57						
	23	β Bootis	C.	24.06	24.93	25.82	27.30	28.43	56 26.06	+ 0.60	— 2.91	14 56 23.75	— 6.12	
	24		D.	51.51	55.16	56.21	57.50	58.67						
	25		E.	21.78	22.71	26.38	27.47	28.79						
	26		A.	11.19	12.46	13.44	16.84	17.75						
	27		B.	36.93	37.81	38.89	40.06	42.90						
	28	Bootis (4991)	C.	2.63	3.60	4.68	5.46	6.58	2 4.54	+ 0.30	— 2.91	15 2 1.93	— 6.63	
	29		D.	26.20	29.14	30.04	31.10	32.05						
	30		E.	51.61	52.61	55.46	56.53	57.46						
	31		A.	19.52	20.47	21.32	24.06	25.00						
	32		B.	42.49	43.56	44.48	45.32	47.99						
	33	β Libræ	C.	5.70	6.54	7.40	8.40	9.24	9 7.43	— 0.21	— 2.91	15 9 4.31	— 7.90	
	34		D.	26.98	29.58	30.49	31.48	32.39						
	35		E.	49.74	50.73	53.27	54.26	55.26						
	36		A.	36.00	37.10	38.25	41.19	42.28						
	37		B.	1.78	2.75	3.87	4.85	7.87						
	38	α Coronæ Borealis	C.	27.60	28.50	29.47	30.51	31.54	28 29.46	+ 0.31	— 2.92	15 28 26.85	— 6.61	
	39		D.	50.83	54.22	55.10	56.18	57.19						
	40		E.	16.76	17.59	20.69	21.64	22.72						
	41		A.	15.41	16.44	17.32	20.06	20.92						
	42		B.	38.40	39.35	40.19	41.25	43.79						
	43	α Serpentis	C.	1.53	2.39	3.31	4.09	4.99	37 3.23	— 0.03	— 2.92	15 37 0.28	— 7.39	
	44		D.	22.49	25.23	26.23	27.13	28.09						
	45		E.	45.56	46.30	49.06	50.10	51.05						
10	46	β Geminorum	C.	15.23	16.06	17 05	18.09	19.11	36 17.11	+ 0.33 — 0.04	— 3.21	7 36 14.19	— 6.37	K.
	47		A.	48.92	49.88	50.71	53.33	54.42						
	48		B.	12.44	13.39	14.35	15.29	17.91						
16	49	α Tauri	C.	36.36	37.13	38.19	39.09	39.90	26 38.07	+ 0.13	+46.83	4 27 25.03	— 5.95	L.
	50		D.	58.09	0.88	1.80	2.82	3.64						
	51		E.	21.60	22.56	25.53	26.31	27.31						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d.	h.	m. s.	s.	s.	s.	s.
June 9	15	— 0 2.91 g	0.020	— 0.230	+ 0.744	+ 0.152
10	7	— 0 3.20 g	0.019	— 0.230	+ 0.744	+ 0.152
16	4	+ 0 46.41 l	0.983	— 0.230	+ 0.744	+ 0.152

18. Correction for Semidiameter = + 1s.52.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	52.24	53.34	54.36	57.19	58.22						
	2		B.	16.93	18.08	18.98	20.00	22.70						
June 16	3	Mercury II.	C.	41.93	42.72	43.72	44.59	45.59	46 43.64	+ 0.22	+ 47.18	4 47 30.84	- - -	L.
	4		D.	4.51	7.31	8.26	9.30	10.30						
	5		E.	29.08	29.97	32.87	33.82	34.90						
	6		C.	46.12	46.98	47.90	48.84	49.70						
17	7	α Canis Majoris	D.	7.55	10.67	11.49	12.62	13.46	38 11.16	− 0.31 −23.41	+ 49 00	6 38 36.44	− 4.21	
	8		E.	31.40	32.21	35.31	36.10	36.98						
	9		A.	54.80	55.86	56.71	59.49	0.32						
	10		B.	17.68	18.66	19.59	20.42	23.07						
	11	α Canis Minoris	C.	40.81	41.72	42.53	43.50	44.30	30 42.48	− 0.02	+ 49.86	7 31 32.32	− 5.42	
	12		D.	1.76	4.43	5.38	6.38	7.20						
	13		E.	24.50	25.46	28.28	29.13	30.08						
	14		A.	30.10	31.06	32.11	35.06	36.16						
	15		B.	55.97	56.98	58.00	59.10	1.98						
	16	73 Geminorum	C.	22.12	22.99	23.95	24.98	25.92	35 23.88	+ 0.33	+ 49.95	7 36 14.16	− 6.38	
	17		D.	45.81	48.78	49.80	50.91	52.00						
	18		E.	11.38	12.25	15.50	16.42	17.57						
	19		A.	41.58	42.66	43.60	46.52	47.50						
	20		B.	5.96	6.85	7.83	8.85	11.60						
	21	Venus I.	C.	30.40	31.32	32.32	33.20	34.16	26 32.16	+ 0.19	+ 50.78	8 27 24.49	- - -	
	22		D.	52.67	55.43	56.42	57.38	58.45						
	23		E.	16.90	17.82	20.55	21.43	22.50						
	24		B.	24.00	25.00	25.92	26.82	29.56						
18	25	α Tauri	C.	47.92	48.69	49.59	50.51	51.35	26 1.21	+ 0.13 −11.69	+ 95.46	4 27 25.11	− 5.99	
	26		D.	9.51	12.30	13.06	14.00	15.00						
	27		E.	33.27	34.08	36.99	37.90	38.80						
	28		A.	0.69	1.66	2.64	5.39	6.32						
	29		B.	23.95	24.72	25.80	26.70	29.00						
	30	β Orionis	C.	46.98	47.87	48.54	49.60	50.40	5 48.63	− 0.20	+ 96.09	5 7 24.52	− 4.77	
	31		D.	8.10	10.77	11.72	12.72	13.49						
	32		E.	30.20	31.93	34.55	35.55	36.47						
	33		A.	43.66	44.52	45.70	48.38	49.31						
	34		B.	8.41	9.32	10.32	11.40	14.32						
19	35	Sun I.	C.	33.22	34.24	35.19	36.10	37.26	50 35.32					
	36		D.	56.49	59.22	0.06	1.10	2.09						
	37		E.	21.20	22.20	25.48	26.42	27.48		+0.24	+ 96.80	5 53 21.33	- - -	
	38		A.	1.50	2.48	3.46	6.64	7.52						
	39		B.	26.00	27.17	28.34	29.50	32.13						
	40	Sun II.	C.	51.22	52.38	53.26	54.41	55.47	52 53.26					
	41		D.	14.11	17.06	18.18	19.22	20.36						
	42		E.	38.82	39.90	43.08	44.15	45.00						
	43		A.	41.86	42.78	43.81	46.91	47.78						
	44		B.	6.16	7.00	8.00	9.10	12.10						
	45	Venus I.	C.	30.55	31.50	32.41	53.41	34.40	28 32.38	+ 0.18	+ 99.32	8 30 13.28	- - -	
	46		D.	52.90	55.70	56.82	57.69	58.64						
	47		E.	16.90	17.84	20.81	21.79	22.67						
	48		A.	16.00	16.93	17.97	20.94	21.70						
	49		B.	39.81	40.68	41.55	42.45	45.25						
20	50	α Tauri	C.	3.53	4.31	5.35	6.22	7.11	25 5.26	+ 0.13	+139.77	4 27 25.16	− 6.03	
	51		D.	25.22	27.98	28.80	29.91	30.80						
	52		E.	48.80	49.69	52.64	53.43	54.51						

3. Correction for Semidiameter = − 0s. 20.
21. Correction for Semidiameter = + 1s. 36.
45. Correction for Semidiameter = + 1.s 40.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
June 17 6	+0 48.37	1 0.988	− 0.230	+ 0.744	+ 0.152
18 5	+0 96.01	1 0.968	− 0.230	+ 0.744	+ 0.152
19 6	+0 96.93	1 0.964	− 0.230	+ 0.744	+ 0.152
20 5	+0 140.32	1 0.939	− 0.230	+ 0.744	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	16.45	17.40	18.30	21.10	21.98						
	2		B.	39.51	40.43	41.40	42.30	45.02						
June 20	3	β Orionis	C.	2.64	3.53	4.41	5.31	6.22	5 4.37	− 0.20	+140.40	5 7 24.57	− 4.80	L.
	4		D.	23.90	26.50	27.34	28.39	29.30						
	5		E.	46.73	47.60	50.20	51.10	52.14						
	6		B.	43.00	44.09	45.18	46.12	49.25						
21	7	Sun I.	C.	8.40	9.54	10.47	11.36	12.28	58 22.43	+ 0.24	+141.24			
	8		D.	31.31	33.11	35.10	36.20	37.20		−12.26				
	9		E.	56.00	56.96	0.08	0.99	1.90						
	10		A.	36.36	37.38	38.40	41.40	42.33				6 1 40.64	. . .	
	11		B.	1.40	2.40	3.39	4.41	7.00						
	12	Sun II.	C.	26.27	27.35	28.25	29.19	30.10	0 28.12	+ 0.24	+141.27			
	13		D.	48.90	51.82	52.78	53.86	54.96						
	14		E.	13.92	14.81	17.86	18.78	19.75						
	15		A.	21.13	22.90	23.70	26.40	27.19						
	16		B.	44.88	45.72	46.48	47.40	50.26						
	17	α Canis Minoris	C.	7.91	8.61	9.55	10.46	11.40	29 9.46	− 0.02	+142.66	7 31 32.10	− 5.43	
	18		D.	28.70	31.54	32.35	33.40	34.27						
	19		E.	51.65	52.41	55.00	56.12	57.06						
	20		A.	6.11	6.98	7.84	10.82	11.81						
	21		B.	31.36	32.17	32.96	33.91	36.98						
25	22	Sun I.	C.	55.87	56.82	57.69	58.63	59.58	14 57.78					
	23		D.	18.92	21.68	22.62	23.64	24.60						
	24		E.	43.72	44.50	47.13	48.39	49.73		+0.24	+131.05	6 18 18.13	. . .	
	25		A.	24.05	25.09	26.11	29.00	30.17						
	26		B.	48.64	50.00	51.21	52.13	55.31						
	27	Sun II.	C.	14.00	15.00	15.90	16.94	17.95	17 15.91					
	28		D.	36.91	39.60	40.75	41.64	42.63						
	29		E.	1.75	2.70	5.48	6.75	7.90						
	30		A.	36.50	37.40	38.24	41.00	41.92						
	31		B.	0.05	1.12	2.26	3.26	5.74						
	32	α Canis Majoris	C.	24.22	25.17	25.96	26.75	27.69	36 25.88	− 0.31	+130.96	6 38 36.53	− 4.26	
	33		D.	45.90	48.55	49.60	50.60	51.66						
	34		E.	9.60	10.62	13.30	14.42	15.42						
	35		A.	33.94	35.09	35.90	38.54	39.42						
	36		B.	56.77	57.66	58.70	59.60	2.00						
	37	α Canis Minoris	C.	19.93	20.76	21.56	22.48	23.38	29 21.59	− 0.02	+130.73	7 31 32.30	− 5.44	
	38		D.	40.87	43.69	44.50	45.53	46.30						
	39		E.	3.70	4.59	7.20	8.22	9.29						
	40		A.	9.31	10.22	11.30	14.57	15.38						
	41		B.	35.10	36.19	37.08	38.12	41.38						
	42	β Geminorum	C.	0.98	2.10	3.24	4.18	5.12	34 3.11	+ 0.33	+130.72	7 36 14.16	− 6.41	
	43		D.	24.86	28.10	29.00	30.08	31.12						
	44		E.	50.78	51.70	54.87	55.93	57.03						
	45		A.	21.51	22.42	23.40	26.22	27.10						
	46		B.	45.22	46.13	47.25	48.21	50.98						
	47	Venus I.	C.	9.40	10.28	11.22	12.15	13.00	33 11.28	+ 0.16	+130.47	8 35 23.45	.	
	48		D.	31.66	34.42	35.22	36.16	37.22						
	49		E.	55.58	56.50	59.25	0.21	1.21						
	50		B.	57.63	58.68	59.78	0.79	3.21						
	51	α^1 Libræ	C.	21.68	22.53	23.42	24.46	25.43	40 23.39	− 0.29	+128.90	14 42 31.95	− 7.95	
	52		D.	43.30	46.00	47.00	48.00	49.00		− 0.05				

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
June 20	5	+0 140.32	1 0.939	− 0.230	+ 0.744	+ 0.152
21	6	+0 141.27	1 0.938	− 0.230	+ 0.744	+ 0.152
25	9	+0 130.35	g 0.255	− 0.230	+ 0.744	+ 0.152

47. Correction for Semidiameter = + 1ˢ.54.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	45.67	46.67	47.72	50.04	51.18						
	2		B.	9.27	10.29	11.11	12.10	14.50						
June 25	3	α^2 Libræ	C.	32.93	33.82	34.75	35.68	36.62	40 34.57	− 0.29	+128.90	14 42 43.18	− 7.96	L.
	4		D.	54.73	57.32	58.42	59.40	0.31						
	5		E.	17.30	18.42	21.00	22.00	23.00						
	6		A.	31.99	32.91	33.73	36.70	37.61	11 46.26	− 0.21	+122.45	14 15 31.63	- - -	K.
26	7	Moon I.	B.	55.83	56.61	57.50	58.50	1.23		+34.93				
	8		A.	52.06	52.91	53.81	56.68	57.54						
	9		B.	15.56	16.55	17.50	18.51	21.23						
	10	α^2 Libræ	C.	39.41	40.27	41.12	42.11	42.98	40 41.15	− 0.29	+122.34	14 42 43.20	− 7.95	L.
	11		D.	1.22	3.91	4.73	5.92	6.62						
	12		E.	24.72	25.45	28.43	29.26	30.20						
	13		A.	58.80	59.56	0.40	3.32	4.32						
	14	Jupiter I.	C.	46.12	46.97	47.91	48.79	49.57	43 47.74	−0.29				
	15		E.	31.00	32.00	34.83	35.81	36.66		+0.04	+122.32	14 45 51.21	- -	K.
	16	Jupiter II.	B.	25.19	26.12	27.00	27.99	30.70	43 50.65	−0.29				
	17		D.	10.66	13.39	14.21	15.21	16.06		−0.06				
	18		A.	14.22	15.30	16.13	18.98	19.82						
	19		B.	37.41	38.32	39.22	40.13	42.83						
	20	β Libræ	C.	0 75	1.52	2.37	3.15	4.10	7 2.29	− 0.21	+122.22	15 9 4.30	− 7.86	
	21		D.	21.75	24.47	25.30	26.31	27.21						
	22		E.	44.70	45.50	48.33	49.28	50.12						
	23	α Coronæ Borealis	D.	45.76	48.79	49.86	51.08	51.92	27 2.04	+ 0.31	+122.13	15 28 26.63	− 6.54	
	24		E.	11.33	12.34	15.47	16.41	17.40		−37.85				
	25		A.	48.86	49.79	50.61	53.38	54.38						
	26		B.	12.31	13.21	14.15	15.10	17.81						
July 8	27	α Herculis	C.	36.18	36.98	37.70	38.71	39.51	7 37.72	+ 0.10	+ 17.87	17 7 55.69	− 7.15	
	28		D.	57.60	0.30	1.30	2.20	3.11						
	29		E.	21.00	21.90	24.69	25.66	26.55						
	30		C.	26.79	27.68	28.58	29.50	30.50						
	31	A. Z. 224, 110	D.	49.33	52.10	53.00	54.00	54.88	50 52.68	− 0.38	+ 17.91	18 50 45.99	− 9.33	
	32		E.	13.67	14.50	17.67	18.56	19.50		−24.22				
	33		C.	58.85	59.91	1.00	1.83	2.70						
	34	Anonymous	D.	21.80	24.33	25.45	26.47	27.41	52 25.05	− 0.38	+ 17.91	18 52 18.36	− 9.33	
	35		E.	46.12	47.11	50.00	50.97	51.85		−24.22				
	36		A.	42.22	43.13	44.10	47.14	48.17						
	37		B.	6.84	7.89	8.91	9.92	12.70						
	38	B.A.C. (6507)	C.	31.66	32.57	33.42	34.32	35.29	55 33.36	− 0.38	+ 17.91	18 55 50.89	− 9.33	
	39		D.	54.17	56.82	57.74	58.84	59.89						
	40		E.	18.62	19.43	22.47	23.40	24.30						
	41		B.	29.40	30.34	31.33	32.30	35.16						
	42	A. Z. 224, 121	C.	54.14	54.94	55.89	56.89	57.74	59 7.91	− 0.38	+ 17.91	18 59 13.36	− 9.29	
	43		D.	16.61	19.40	20.33	21.32	22.29		−12.08				
	44		E.	41.09	41.77	44.73	45.71	46.78						
	45		B.	45.33	46.38	47.38	48.17	51.11						
	46	Madras, 1251	C.	10.00	10.81	11.71	12.74	13.53	8 23.78	− 0.37	+ 17.91	19 8 29.35	− 9.26	
	47		D.	32.42	35.22	36.20	37.18	38.09		−11.97				
	48		E.	56.94	57.76	0.61	1.60	2.42						
	49		A.	48.42	49.40	50.40	53.12	54.26						
	50		B.	12.98	13.79	14.79	15.78	18.61						
	51	Greenwich, 12 Y. 1719	C.	37.47	38.42	39.26	40.20	41.11	13 39.18	− 0.37	+ 17.91	19 13 56.72	− 9.22	
	52		D.	59.82	2.68	3.58	4.50	5.47						
	53		E.	24.04	25.00	27.93	28.90	29.70						

6. Correction for Semidiameter = +68.^{s}20.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
June 25 9	+0 130.35	g 0.255	− 0.230	+ 0.744	+ 0.152
26 15	+0 122.25	g 0.257	− 0.230	+ 0.744	+ 0.152
July 8 15	+0 17.82	l 0.022	− 0.230	+ 0.744	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	17.00	17.90	18.86	21.81	22.70						
	2		B.	41.37	42.29	43.31	44.22	47.10						
July 8	3	Lalande, 36878	C.	5.93	6.72	7.61	8.52	9.40	23 7.58	— 0.37	+17.92	19 23 25.13	— 9.19	K.
	4		D.	28.13	30.82	31.84	32.82	33.93						
	5		E.	52.40	53.29	56.20	57.24	58.10						
	6	37221, Lalande	A.	0.19	1.22	2.16	5.15	6.00	30 15.10	— 0.39	+17.92	19 31 9.06	— 9.27	
	7		B.	24.98	25.87	26.84	27.84	30.66		+36.43				
	8		C.	31.50	32.37	33.19	34.13	35.05						
10	9	β^1 Scorpii	D.	53.66	56.40	57.38	58.40	59.32	56 56.99	— 0.35	+19.08	15 56 51.93	— 8.61	
	10		E.	17.69	18.57	21.47	22.37	23.32		—23.79				
	11		A.	10.58	11.70	12.68	15.90	16.72						
	12		B.	36.17	37.20	38.00	39.12	42.24						
	13	α Scorpii	C.	1.67	2.56	3.50	4.53	5.50	20 3.51	— 0.44	+19.10	16 20 22.17	— 9.19	
	14		D.	25.04	27.89	28.85	29.88	31.00						
	15		E.	50.15	51.10	54.15	55.18	56.12						
	16		C.	28.69	30.40	32.39	34.27	36.08						
19	17	η Draconis	D.	12.96	18.69	20.42	22.74	24.36	22 19.78	+ 1.47	+27.93	16 22 1.65	— 3.59	
	18		E.	1.31	2.91	8.63	10.50	12.36		—47.53				
	19		C.	25.84	26.71	27.51	28.50	29.48						
	20	α Herculis	D.	47.60	50.12	51.15	52.09	53.00	7 50.73	+ 0.10	+27.93	17 7 55.60	— 7.16	
	21		E.	10.93	11.71	14.52	15.42	16.34		—23.16				
	22		A.	20.90	22.16	23.85	28.28	29.42						
	23		B.	58.21	59.52	1.02	2.74	7.09						
	24	β Draconis	C.	35.79	36.87	38.34	39.70	41.06	26 38.44	+ 0.96	+27.93	17 27 7.33	— 4.81	
	25		D.	10.18	14.15	15.80	17.29	18.63						
	26		E.	47.47	48.78	53.25	54.62	55.97						
	27		A.	38.46	39.45	40.33	43.21	44.20						
	28		B.	2.82	3.86	4.90	5.83	8.80						
	29	μ Sagittarii	C.	27.50	28.36	29.23	30.00	31.02	4 29.20	— 0.37	+27.93	18 4 56.76	— 9.30	
	30		D.	49.86	52.72	53.64	54.60	55.62						
	31		E.	14.15	14.94	17.98	18.85	19.73						
	32		A.	28.38	29.42	30.82	34.28	35.39						
	33		B.	57.85	58.90	0.00	1.12	4.65						
	34	α Lyræ	C.	26.98	28.07	29.13	30.21	31.40	31 29.19	+ 0.54	+27.93	18 31 57.66	— 6.17	
	35		D.	53.83	57.22	58.55	59.62	0.72						
	36		E.	22.89	23.97	27.67	28.67	29.90						
	37		A.	13.92	15.17	16.10	19.42	20.41						
	38		B.	41.37	42.39	43.49	44.60	47.87						
	39	β Lyræ	C.	8.78	9.54	10.61	11.87	12.94	44 10.68	+ 0.42	+27.93	18 44 39.03	— 6.48	
	40		D.	33.74	36.69	37.93	39.12	40.22						
	41		E.	0.99	1.71	4.94	6.00	7.16						
	42		A.	38.86	39.80	40.76	43.77	44.45						
	43		B.	2.45	3.46	4.42	5.34	7.94						
21	44	α Herculis	C.	26.13	26.97	27.92	28.87	29.72	7 27.87	+ 0.10	+27.68	17 7 55.65	— 7.14	
	45		D.	47.75	50.51	51.37	52.37	53.32						
	46		E.	11.18	12.06	14.80	15.83	16.82						
	47		A.	49.32	50.30	51.25	54.08	54.92						
	48		B.	12.72	13.72	14.62	15.52	18.10						
	49	α Ophiuchi	C.	36.33	37.02	37.90	38.83	39.70	27 37.91	+ 0.08	+27.68	17 28 5.67	— 7.33	
	50		D.	57.70	0.45	1.29	2.19	3.04						
	51		E.	20.87	21.65	24.50	25.42	26.37						
	52		C.	41.33	42.32	43.82	45.30	46.75						
	53	γ Draconis	D.	14.90	19.17	20.70	22.10	23.42	53 19.94	+ 0.93	+27.67	17 53 12.52	— 4.98	
	54		E.	51.43	52.73	56.95	58.30	59.94		—36.02				

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d.	h.	m. s.	s.	s.	s.	s.
July 8	15	+ 0 17.82 l	0.022	— 0.230	+ 0.744	+ 0.152
10	15	+ 0 19.06 l	0.027	— 0.230	+ 0.744	+ 0.152
19	15	+ 0 27.98 l	0.004	— 0.230	+ 0.744	+ 0.152
21	18	+ 0 27.69 g	0.006	— 0.230	+ 0.744	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	38.62	39.66	40.63	43.57	44.54						
	2		B.	3.00	4.00	5.00	6.00	8.87						
July 21	3	μ^1 Sagittarii	C.	27.85	28.60	29.55	30.41	31.37	4 29.47	− 0.37	+27.67	18 4 56.77	− 9.29	K.
	4		D.	50.15	53.00	53.92	54.87	55.91						
	5		E.	14.42	15.21	18.34	19.18	20.19						
	6		C.	57.30	58.08	58.90	59.76	1.16						
27	7	Moon, I.	D.	20.69	23.43	24.52	25.54	26.67	50 24.15	− 0.42 −25.11	+26.41	17 51 36.61	- - - -	
	8		E.	46.17	46.96	50.09	50.91	52.10						
	9		A.	39.96	41.00	41.93	44.84	45.63						
	10		B.	4.13	5.12	6.20	7.25	10.21						
	11	p^1 Sagittarii	C.	28.81	29.89	30.93	31.72	32.73	4 30.76	− 0.37	+26.40	18 4 56.79	− 9.28	
	12		D.	51.22	54.29	55.21	56.23	57.22						
	13		E.	15.81	16.71	19.66	20.62	21.62						
	14		A.	33.84	34.59	35.52	38.59	39.70						
	15		B.	59.09	0.00	0.91	2.00	4.98						
	16	λ Sagittarii	C.	24.88	25.59	26.30	27.27	28.34	18 26.26	− 0.43	+26.39	18 18 52.22	− 9.64	
	17		D.	47.53	50.40	51.40	52.43	53.62						
	18		E.	12.68	13.48	16.73	17.80	18.64						
	19		A.	30.07	31.21	32.39	35.85	36.83						
	20		B.	59.21	0.52	1.64	2.81	6.09						
	21	α Lyræ	C.	28.69	29.70	30.73	31.93	32.96	31 30.71	+ 0.54	+26.38	18 31 57.63	− 6.13	
	22		D.	55.40	58.72	59.73	1.10	2.32						
	23		E.	24.38	25.33	28.80	30.19	31.15						
	24		C.	47.70	48.46	49.38	50.29	51.25						
Aug. 2	25	α Ophiuchi	D.	9.05	11.58	12.72	13.58	14.52	28 12.30	+ 0.08 −23.00	+16.02	17 28 5.40	− 7.24	
	26		E.	32.22	33.12	36.00	36.88	37.78						
	27		A.	50.30	51.39	52.26	55.45	56.20						
	28		B.	14.82	15.80	16.70	17.73	20.48						
	29	μ^1 Sagittarii	C.	39.32	40.19	41.37	42.26	43.20	4 41.15	− 0.37	+15.97	18 4 56.75	− 9.26	
	30		D.	1.96	4.60	5.29	6.38	7.33						
	31		E.	26.13	26.88	29.97	30.91	31.77						
	32		A.	40.38	41.43	42.59	46.37	47.33						
	33		B.	9.58	10.85	12.09	13.22	16.52						
	34	α Lyræ	C.	39.05	40.12	41.11	42.37	43.45	31 41.11	+ 0.54	+15.92	18 31 57.57	− 6.07	
	35		D.	6.09	9.00	10.10	11.57	12.47						
	36		E.	34.80	35.78	39.42	40.46	41.61						
	37		A.	26.15	27.18	28.20	31.32	32.28						
	38		B.	53.16	54.47	55.53	56.50	59.49						
	39	β Lyræ	C.	20.60	21.56	22.54	23.60	24.69	44 22.61	+ 0.42	+15.90	18 44 38.93	− 6.42	
	40		D.	45.51	48.83	49.81	50.95	51.97						
	41		E.	12.88	13.71	17.06	18.11	19.20						
	42		A.	15.49	16.72	17.95	21.81	23.07						
	43		B.	47.56	48.89	50.13	51.43	55.00						
Oct. 8	44	α Cygni	C.	20.04	21.00	22.21	23.32	24.71	36 22.20	+ 0.71	+ 1.49	20 36 24.40	− 5.58	
	45		D.	49.49	53.10	54.39	55.71	56.89						
	46		E.	21.31	22.38	26.21	27.40	28.70						
	47		A.	15.66	16.71	17.88	21.38	22.41						
	48		B.	44.51	45.68	46.86	47.99	51.39						
	49	61^1 Cygni	C.	13.80	14.71	15.82	16.90	18.00	0 15.75	+ 0.52	+ 1.49	21 0 17.76	− 7.31	
	50		D.	40.10	43.44	44.71	45.79	46.97						
	51		E.	9.00	10.09	13.59	14.66	15.76						
	52		A.	43.65	44.68	45.67	48.81	49.79						
	53		B.	9.80	10.74	11.89	12.98	15.99						
	54	ζ Cygni	C.	36.21	37.12	38.10	39.21	40.19	6 38.12	+ 0.33	+ 1.49	21 6 39.94	− 6.86	
	55		D.	0.31	3.39	4.40	5.39	6.29						
	56		E.	26.45	27.41	30.63	31.52	32.45						

7. Correction for Semidiameter = +71ˢ.58.

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
July 21 18	+ 0 27.69	g 0.006	− 0.230	+ 0.744	+ 0.152
27 18	+ 0 26.40	g 0.045	− 0.230	+ 0.744	+ 0.152
Aug. 2 18	+ 0 15.97	g 0.100	− 0.230	+ 0.744	+ 0.152
Oct. 8 18	+ 0 1.52	g 0.010	− 0.286	+ 0.813	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	20.13	22.05	24.09	29.85	31.62						
	2		B.	8.76	10.41	12.39	14.47	20.10						
Oct. 8	3	α Cyshei	C.	57.49	59.12	0.78	2.92	4.79	15 0.93	+ 1.55	+ 1.49	21 15 3.97	− 4.88	K.
	4		D.	42.11	47.49	49.38	51.41	53.30						
	5		E.	30.15	31.82	37.62	39.51	41.42						
	6		A.	59.08	0.00	0.82	3.41	4.32						
	7		B.	21.70	22.81	23.84	24.75	27.10						
	8	β Aquarii	C.	45.13	45.80	46.61	47.50	48.42	23 46.62	− 0.24	+ 1.49	21 23 47.87	− 8.35	
	9		D.	5.99	8.68	9.57	10.52	11.32						
	10		E.	28.71	29.50	32.41	33.32	34.15						
	11		A.	7.41	8.33	9.34	11.95	12.80						
	12		B.	30.52	31.33	32.38	33.20	35.92		+ 0.17				
	13	ε Pegasi	C.	53.84	54.60	55.43	56.37	57.18	36 49.76	+ 5.70	+ 1.48	21 36 57.11	− 7.90	
	14		E.	38.00	38.86	41.61	42.56	43.55						
	15		A.	2.96	4.00	5.22	8.80	9.85						
	16		B.	32.20	33.12	34.49	35.62	38.94						
10	17	12 Canis Venat.	C.	1.50	2.59	3.93	4.92	5.91	49 3.77	+ 0.55	+ 1.01	12 49 5.33	− 5.22	
	18		D.	28.60	31.69	33.14	34.18	35.32						
	19		E.	57.79	58.76	2.42	3.45	4.79						
	20		A.	46.52	47.58	48.39	51.07	51.92						
	21		B.	9.20	10.29	11.19	12.12	14.76						
11	22	α Aquilæ	C.	32.60	33.59	34.36	35.29	36.10	43 34.32	− 0.03	+ 0.64	19 43 34.93	− 7.22	
	23		D.	53.70	56.40	57.38	58.40	59.28						
	24		E.	16.80	17.53	20.26	21.19	22.12						
	25		A.	15.79	16.68	17.45	20.25	21.15						
	26		B.	38.79	39.44	40.49	41.30	43.95						
	27	β Aquilæ	C.	1.61	2.39	3.28	4.18	5.00	48 3.32	− 0.06	+ 0.63	19 48 3.89	− 7.29	
	28		D.	22.45	25.45	26.40	27.09	28.00						
	29		E.	45.37	46.41	49.10	50.00	51.00						
	30		A.	3.20	4.10	5.09	8.09	8.75						
	31		B.	26.60	27.45	28.45	29.35	32.00						
	32	α^2 Capricorni	C.	49.91	50.71	51.62	52.52	53.36	9 51.76	− 0.33	+ 0.61	20 9 52.04	− 8.35	
	33		D.	11.42	14.19	15.16	16.00	16.89						
	34		E.	34.80	35.72	38.62	39.51	40.42						
	35		A.	14.98	16.13	17.12	19.71	20.96						
	36		B.	39.06	40.17	41.03	42.11	44.48						
20	37	α Bootis	C.	3.83	4.72	5.62	6.62	7.46	9 5.47	+ 0.15	−11.27	14 8 54.35	− 5.29	
	38		D.	25.89	28.13	29.69	30.68	31.67						
	39		E.	50.33	51.13	53.91	54.80	56.00						
	40		A.	28.62	30.11	31.11	34.52	35.51						
	41		B.	57.60	58.88	59.94	0.98	4.38						
	42	61[1] Cygni	C.	26.75	27.57	28.82	30.13	31.07	0 28.88	+ 0.52	−11.79	21 0 17.61	− 7.07	
	43		D.	53.49	56.91	57.80	59.28	0.21						
	44		E.	22.08	23.00	26.64	27.76	28.89						
	45		A.	11.90	12.87	13.82	16.48	17.43						
	46		B.	35.00	35.93	36.77	37.82	40.35						
	47	β Aquarii	C.	57.94	58.73	59.63	0.46	1.25	23 59.67	− 0.24	−11.82	21 23 47.61	− 8.19	
	48		D.	19.00	21.84	22.73	23.50	24.37						
	49		E.	41.83	42.76	45.50	46.46	47.36						
	50		A.	20.44	21.36	22.25	25.12	25.99						
	51		B.	43.69	44.34	45.39	46.38	49.07						
	52	ε Pegasi	C.	6.92	7.80	8.71	9.48	10.25	37 8.49	+ 0.17	−11.83	21 36 56.84	− 7.74	
	53		D.	27.89	30.71	31.52	32.55	33.44						
	54		E.	50.90	51.78	54.58	55.53	56.39						

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	m.	n.	c.
d.	h.	m. s.	s.	s.	s.	s.
Oct. 8	18	+ 0 1.52 g	0.010	− 0.286	+ 0.813	+ 0.152
10	18	+ 0 0.74 g	0.052	− 0.286	+ 0.813	+ 0 152
11	20	+ 0 0.62 g	0.060	− 0.286	+ 0.813	+ 0.152
20	20	− 0 11.71 g	0.075	− 0.286	+ 0.813	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		A.	28.89	29.68	30.72	34.08	35.19						
	2		B.	57.56	58.67	59.90	1.00	4.24						
Oct. 23	3	61[1] Cygni	C.	26.92	27.65	28.53	29.80	30.97	0 28.70	+ 0.52	— 11.64	21 0 17.58	— 7.01	K.
	4		D.	53.35	56.50	57.64	58.91	59.83						
	5		E.	22.00	23.14	26.46	27.62	28.62						
	6		A.	56.49	57.67	58.60	1.73	2.69						
	7		B.	22.77	23.75	24.86	25.82	28.94						
	8	ζ Cygni	C.	48.98	49.84	50.86	51.88	53.00	6 51.02	+ 0.33	— 11 64	21 6 39.71	— 6.58	
	9		D.	13.32	16.12	17.24	18.48	19.46						
	10		E.	39.46	40.34	43.42	44.28	45.39						
	11		A.	12.00	12.94	13.79	16.48	17.33						
	12		B.	35.00	35.84	36.71	37.54	40.22						
	13	β Aquarii	C.	58.14	59.00	59.85	0.72	1.36	23 59.62	— 0.24	— 11.62	21 23 47.76	— 8.15	
	14		D.	19.16	21.56	22.39	23.49	24.38						
	15		E.	41.75	42.58	45.24	46.14	47.00						
	16		A.	20.52	21.50	22.30	25.00	26.00						
	17		B.	43.56	44.48	45.40	46.26	48.90						
	18	ε Pegasi	C.	6.82	7.61	8.50	9.30	10.21	37 8.44	— 0.17	— 11.61	21 36 56.66	— 7.70	
	19		D.	27.95	30.53	31.50	32.43	33.36						
	20		E.	50.93	51.77	54.43	55.46	56.35						
	21		A.	18.78	19.68	20.67	23.63	24.46						
	22		B.	43.11	44.07	44.98	46.00	48.62						
Nov. 22	23	α Bootis	C.	7.52	8.32	9.30	10.21	11.09	9 9.20	+ 0.15	— 14.33	14 8 55.02	— 5.67	
	24		D.	29.75	32.41	33.41	34.40	35.37						
	25		E.	53.89	54.66	57.71	58.57	59.47						
	26		B.	17.42	18.78	19.68	20.65	23.85						
	27		C.	43.82	44.63	45.78	46.68	47.47		+ 0.30				
	28	ε Bootis	D.	7.12	10.05	11.15	12.00	13.19	38 58.10	—12.69	— 14.33	14 38 31.38	— 5.26	M.
	29		E.	32.64	33.71	36.75	37.79	38.71						
	30		B.	11.60	12.62	13.72	14.63	17.37						
	31		C.	37.30	38.41	39.34	40.32	41.13		+ 0.29				
	32	α Coronæ Borealis	D.	1.08	3.97	4.74	5.78	6.82	28 51.83	—12.63	— 14.33	15 28 25.16	— 4.95	
	33		E.	26.38	27.44	30.26	31.26	32.51						
	34		A.	19.33	20.13	21.10	23.90	24.92						
	35		B.	42.88	43.69	44.72	45.69	48.32						
27	36	Neptune	C.	6.43	7.33	8.20	9.00	9.73	43 8.07	— 0.28	— 14.24	22 42 53.55	. . .	K.
	37		D.	27.92	30.46	31.56	32.38	33.39						
	38		E.	51.25	52.00	55.00	55.81	56.60						
	39		A.	32.62	33.51	34.51	37.28	38.14						
	40		B.	55.70	56.47	57.65	58.51	1.18						
	41	ζ Pegasi	C.	19.07	19.80	20.70	21.66	22.65	34 20.72	0.00	— 14.24	22 34 6.48	— 7.63	
	42		D.	40.43	42.87	43.90	44.73	45.71						
	43		E.	3.26	4.20	6.96	7.81	8.72						
	44		A.	49.57	50.68	51.56	54.82	55.62						
	45		B.	15.92	17.07	18.17	19.13	22.22						
	46	α Piscis Australis	C.	42.67	43.53	44.53	45.60	46.58	49 44.49	— 0.61	— 14.24	22 49 29.64	— 8.62	
	47		D.	6.93	9.88	10.89	12.00	13.00						
	48		E.	33.20	34.10	37.24	38.13	39.20						
	49		A.	50.53	51.50	52.30	55.09	56.00						
	50		B.	14.02	14.94	15.86	16.77	19.66						
	51	α Pegasi	C.	37.55	38.42	39.41	40.40	41.20	57 39.38	+ 0.06	— 14.24	22 57 25.20	— 7.76	
	52		D.	59.31	2.00	2.98	3.85	4.83						
	53		E.	22.65	23.38	26.34	27.22	28.19						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	m.	n.	c.
d. h.	m. s.	s.	s.	s.	s.
Oct. 23 20	—0 11.71	1 0.065	— 0.286	+ 0.813	+ 0.152
Nov. 22 15	—0 14.33	1 0.000	— 0.286	+ 0.813	+ 0.152
27 23	—0 14.24	1 0.003	— 0.286	+ 0.813	+ 0.152

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1850.0.	Observer.
1852.				s.	s.	s.	s.	s.	m. s.	s.	s.	h. m. s.	s.	
	1		B.	31.46	32.51	33.75	34.68	37.52						
	2		C.	57.51	58.35	59.30	0.46	1.27		+ 0.31				
Dec. 8	3	α Andromedæ	D.	21.46	24.35	25.30	26.32	27.22	1 12.13	−12.76	−12.95	0 0 46.73	− 8.30	M.
	4		E.	46.86	47.72	51.17	52.26	53.13						
	5		A.	3.19	4.10	4.99	7.73	8.87						
	6		B.	26.58	27.71	28.70	29.57	32.52						
	7	γ Pegasi	C.	50.39	51.32	52.22	52.98	53.82	5 52.09	+ 0.06	−12.95	0 5 39.20	− 8.29	
	8		D.	12.13	14.63	15.54	16.50	17.45						
	9		E.	35.25	36.17	39.06	39.96	40.69						
	10		A.	34.69	36.00	36.94	39.83	40.81						
	11	β Ceti	B.	59.31	0.35	1.27	2.14	4.56	36 1.49	− 0.42	−12.95	0 36 11.81	− 8.29	
	12		C.	23.43	24.44	25.43	26.13	27.05		+23.69				
	13		C.	51.34	52.33	53.28	54.12	55.05						
	14	δ Ceti	D.	12.41	15.50	16.62	17.39	18.13	17 15.91	− 0.28	−12.94	1 16 39.98	− 8.45	
	15		E.	35.51	36.46	39.25	40.29	41.19		−22.71				
	16		A.	14.47	15.58	16.62	19.62	20.51						
	17	α Arietis	B.	39.44	40.36	41.24	42.20	45.13	58 41.68	+ 0.20	−12.94	1 58 53.28	− 9.67	
	18		C.	4.15	5.11	6.00	6.87	7.98		+24.34				
	19		A.	6.75	7.75	8.56	11.10	12.06						
	20		B.	29.37	30.31	31.30	32.30	34.60						
	21	γ Ceti	C.	52.07	53.20	54.22	55.00	55.95	35 54.01	− 0.11	−12.93	2 35 40.97	− 9.06	
	22		D.	13.16	16.00	16.80	17.66	18.55						
	23		E.	35.93	36.69	39.51	40.35	41.11						

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	*m.*	*n.*	*c.*
d. h.	m. s.	s.	s.	s.	s.
Dec. 8 0	− 0 12.95	1 0.007	− 0.286	+ 0.813	+ 0.152

OBSERVATIONS

WITH THE

MURAL CIRCLE,

1852.

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Jan. 14	1	δ Ceti	- -	67 49 57.9	60.5	61.9	63.0	64.4	55.0	60.45	30.9934	- - -	29.529
	2	Saturn, N. & S.	- -	50 34 60.9	59.0	60.8	60.6	61.8	56.9	60.00	32.3972 32.8790	- - - - - -	29.540
	3	Uranus	- -	47 44 60.5	59.3	61.7	65.2	64.0	56.0	61.12	32.1545	- - -	29.540
	4	Nadir	- -	199 59 56.8	58.9	61.8	62.3	63.0	53.8	59.43	30.7093	30.7168	- -
	5	"	- -	57.2	58.7	63.4	64.0	61.5	53.0	59.63			
	6	Eridani, 922	- -	83 19 60.6	64.4	65.2	67.2	67.3	58.9	63.93	31.2628	- - -	29.540
15	7	α Lyræ	- -	20 14 54.9	61.3	62.6	63.6	61.3	49.9	58.93	30.9172	- - -	29.585
	8	Nadir	- -	199 59 55.0	61.2	62.4	61.6	63.9	52.6	59.45	30.6706	30.6717	- -
	9	"	- -	55.4	61.8	61.8	64.3	63.7	55.0	60.33			
	10	α Aquilæ	- -	50 24 55.7	62.2	64.9	61.3	66.0	54.3	60.73	31.4225	- - -	- -
16	11	Venus, N. & S.	- -	74 34 56.5	59.3	67.0	63.7	66.3	54.3	61.18	32.2103 32.3945	- - -	29.652
	12	Nadir	- -	199 59 53.8	61.8	62.3	58.0	64.9	53.2	59.00	30.6944	30.7137	- -
	13	"	- -	53.5	60.8	61.5	61.0	61.3	53.3	58.57			
	14	B.A.C. 2557	- -	84 54 59.7	60.5	66.0	68.1	68.3	61.3	63.98	33.9968	30.7159	29.871
	15	"	- -	58.6	61.0	65.5	68.0	67.3	61.9	63.72	- - -	- - -	- -
	16	υ^3 Cancri	- -	34 19 57.3	58.3	62.5	64.8	66.2	56.9	61.00	31.8016	- - -	29.875
	17	"	- -	56.5	- -	- -	65.0	- -	56.9	60.90	32.2778	- - -	- -
	18	"	-	- - - -	- -	- -	- -	- -	- -	- -	30.7515	- - -	- -
	19	Mars, N. & S.	- -	36 9 57.0	58.3	61.6	64.9	64.2	55.5	60.27	32.0143 32.3850	- - -	29.860
	20	Mars, N. & S.	- -	56.3	58.3	60.9	65.1	64.8	55.4	60.13	- - -	- - -	- -
	21	Nadir	- -	199 59 54.5	58.5	58.9	65.9	62.0	56.3	59.35	30.7072	30.7181	- -
	22	"	- -	56.0	58.3	58.5	65.8	61.8	55.3	59.28	- - -	- - -	- -
	23	Weisse X, 45	- -	46 9 58.8	61.3	63.0	65.0	65.4	57.0	61.75	33.2815	- - -	29.875
	24	δ Hydræ	- -	72 49 57.0	62.7	62.6	68.5	69.5	58.5	63.13	34.7184	- - -	29.810
	25	B.A.C. 3945	- -	91 39 59.0	62.5	61.3	66.7	67.3	57.3	62.35	35.1452	- - -	29.820
26	26	Nadir	- -	199 59 56.2	60.0	62.8	63.9	63.0	56.9	60.47	30.7416	30.7309	- -
	27	"	- -	56.9	60.2	63.2	63.8	64.7	56.5	60.88			
	28	ε Canis Majoris	- -	87 39 56.9	59.9	62.2	61.6	65.3	54.5	60.07	32.8360	- - -	29.897
	29	B.A.C. 2557	- -	84 54 56 5	61.0	67.2	64.4	67.4	57.8	62.38	34.8978	- - -	29.895
	30	ξ Argus	- -	83 24 57.6	62.7	65.7	64.8	67.8	57.0	62.60	34.4316	- - -	29.895
	31	λ Cancri	- -	34 24 57.0	62.7	64.8	65.0	65.8	55.9	61.87	31.3426	- - -	29.898
	32	υ^1 Cancri	- -	33 49 57.0	63.7	64.6	65.1	65.0	57.3	62.12	28.4380	- - -	30.010
29	33	μ^1 Cancri	- -	35 59 52.3	52.8	54.9	54.3	57.8	47.0	53.18	40.0033	- - -	30.060
	34	Anonymous	- -	34 24 57.4	58.0	60.8	60.3	62.4	52.3	58.53	29.8914	- - -	29.995
	35	λ Cancri	- -	- - -	- -	- -	- -	-	-	-	31.2790	- - -	- -
	36	Mars, S. L.	- -	34 44 57.4	58.6	61.3	60.2	63.5	52.4	58.90	28.1780	- - -	29.995
	37	Nadir	- -	199 59 57.7	56.6	60.5	60.2	61.8	54.3	58 52	30.6416	30.6620	- -
	38	"	- -	57.0	58.0	60.3	60.8	62.5	54.3	58.82	- - -	- - -	- -
	39	ε Leonis	- -	34 24 56.5	57.5	59.9	59.6	60 6	53.3	57.90	29.4710	- - -	29.999
	40	A Leonis	- -	46 9 58.3	57.8	61.9	59.8	64.1	51.5	58.90	28.8940	- - -	29.980
	41	χ^1 Hydræ	- -	85 19 57.8	62.0	64.8	66.0	67.8	57.3	62.62	29.6920	- - -	29.985
	42	χ^2 Hydræ	- -	- - - -	- -	- -	- -	- -	- -	- -	30.0480	- - -	- -
	43	δ Hydræ	- -	72 49 57.5	59.0	61.2	62.4	63.2	53.5	59.47	29.7900	- - -	29.985
	44	B.A.C. 3926	- -	89 9 57.7	63.1	63.3	64.0	65.4	55.8	61.55	33.4532	- - -	29.985
30	45	26 Canis Majoris	- -	84 34 58.2	59.9	64.5	62.3	66.2	55.8	61.15	32.1930	- - -	30.000
	46	Anonymous	- -	83 34 58 0	58.6	63.0	60.5	63.5	55.0	59.77	31.4382	- - -	29.990
	47	B.A.C. 2557	- -	84 54 58.0	59.7	66.8	63.8	68.3	56.8	62.37	23.8966	- - -	30.000
	48	B.A.C. 2599	- -	83 24 57.7	60.3	63.9	62.7	65.7	54 6	60.82	31.3204	- - -	29.998
	49	Anonymous	- -	34 39 57.5	59.4	62.0	61.9	62.2	54.0	59.50	29.7940	- - -	- -
	50	Nadir	- -	199 59 58.0	59.2	62.6	63.2	61.7	55.5	60.03	30.6853	30.6817	- -
	51	"	- -	57 9.0	59.3	62.8	63.6	62.2	55.8	60.27			
	52	"	- -	57 4.0	59.8	63.3	63.2	62.3	56.1	60.35	- - -	- - -	- -
Feb. 3	53	Nadir	- -	199 59 59.8	62.0	66.5	66.5	64.6	58.7	63.02	30.7164	30.6662	- -
	54	"	- -	60.1	62.4	66.8	66.8	64.8	58.9	63.30			
	55	α Leporis	- -	76 49 61.0	62.4	68.3	66.5	67.7	59.0	64.15	32.4244	- - -	30.075
	56	α Columbæ	- -	93 4 60.6	61.7	65.5	65.0	64.4	56.7	62.30	35.4826	- - -	30.070
	57	μ Geminorum	- -	36 19 60.4	62.5	66.8	66.8	64.9	57.9	63.22	32.3584	- -	30.068
	58	Anonymous	- -	36 19 60.4	62.5	66.8	66.8	64.9	57.9	63.22	29.4755	- - -	30.063
	59	α Canis Majoris	- -	75 24 60.0	62.6	68.7	67.5	65.0	56.5	63.38	32.3878	- - -	- -
	60	ε Canis Majoris	- -	87 39 59.8	63.4	65.8	66.2	65.6	56.5	62.88	32.8972	- - -	30.052
	61	Canis Majoris	- -	85 39 60.2	63.3	68.3	67.7	66.4	57.8	63.95	32.1990	- - -	30.050
	62	β Geminorum	- -	30 29 60.0	63.0	67.4	66.2	64.7	57.6	63.15	30.0230	- - -	30.050
	63	μ^1 Cancri	- -	35 59 60.2	64.2	68.9	68.8	65.6	58.2	64.32	40.1670	- - -	- -
	64	B.A.C. 2703	- -	- - - -	- -	- -	- -	-	-	- -	30.0658	- - -	30.050
	65	υ^2 Cancri	- -	34 24 59.9	65.5	69 .0	69.5	64.9	58.5	64.55	39.8510	- - -	30.048

Number.	Thermometers. At.	Ex.	Up.	Low.	Corrections for Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.*	Remarks.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	35.2	30.5	34.0	- -	— 17.37	+ 1 5.85	67 50 48.93	— 8 57 9.68	—24.91	C.F.	1. Jan. 14 to June 6, $r = 62''.800$.
2	35.3	33.3	36.0	- -	— 1 45.35 — 2 15.85	+ 34.55	50 33 33 95	+ 8 20 5.30	- - -		2. One or both of the micrometer readings wrong.
3	35.3	33.3	36.0	- -	— 1 30.19	+ 31.04	47 44 1.97	+11 9 37.28	- - -		
4											
5	- - - -	- -	38.0	- -	- - -	- - -	- - - -	- - - -	- - -		
6	36.0	35.5	36.0	- -	— 34.18	+ 1 57.20	83 21 26.95	—24 27 47.70	—12.58		
7	36.0	33.0	- -	- -	— 15.46	+ 0.25	20 14 43.72	+38 38 55.53	— 2.20		
8											8, 9. Micrometer reading probably erroneous.
9	- - - -	- -	- -	40.8	- - -	- - -	- - - -	- - - -	- - -		
10	- - - -	- -	- -	- -	— 46.97	+ 34.92	50 24 48.68	+ 8 28 50.57	—15.28		
11	41.0	39.5	- -	- -	— 1 33.72 — 1 45.24	+ 1 17.72 + 1 17.62	74 34 45.18 74 34 33.56	—15 41 0.12	- - -		
12											
13	- - - -	- -	- -	41.0	- - -	- - -	- - - -	- - - -	- - -		
14	41.5	35.9	- -	- -	— 3 26.04	+ 2 6.64	84 53 44.45	—26 0 5.20	+20.09		
15	- - - -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
16	38.9	32.0	- -	- -	— 1 8.24	+ 15.37	34 19 8 08	+24 34 31.17	+27.54		
17	- - - -	- -	- -	- -	— 1 37.91	+ 15.36	34 18 38 40	+24 35 0.85	+27.76		
18	- - - -	- -	- -	- -	— 2.26	+ 15.39	34 20 14.08	+24 33 25.17	- - -		
19	38.0	31.2	- -	40.0	— 1 21.53 — 1 44.64	+ 13.91	36 8 52.58 36 8 29.47	+22 44 58.23	- - -		19. Micrometer reading wrong.
20	- - - -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
21	- - - -	-	-	39.0	- - -	- - -	- - - -	- - - -	- - -		
22	- - - -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
23	37.5	31.0	35.7	39.0	— 2 40.95	+ 29.59	46 7 50.39	+12 45 48.86	+39.35		
24	36.0	31.7	- -	- -	— 4 11.36	+ 1 19.00	72 47 10.77	—13 53 31.52	+33.73		
25	36.0	30.4	- -	- -	— 4 38.06	+ 2 59.46	91 38 23.75	—32 44 44.50	+28.56		25. Field dimly lighted.
26											
27	- - - -	- -	40.0	41.0	- - -	- - -	- - - -	- - - -	- - -		26, 27. Fine night, stars bright and well defined. Mercury steady.
28	40.2	33.0	38.0	40.0	— 2 12.29	+ 2 25.17	87 40 12.95	—28 46 33.70	+18.24		
29	38.3	33.9	37.0	38.8	— 3 18.93	+ 2 7.19	84 53 50.64	—26 0 11.39	+22.70		29. Micrometer reading assumed to be 33.8978 instead of 34.8978.
30	37.0	33.6	- -	38.4	— 3 52.23	+ 1 59.27	83 23 9.64	—24 29 30.39	+23.29		
31	36.6	32.7	- -	39.0	— 38.86	+ 15.46	34 24 38.47	+24 29 0.78	+25.64		
32	- -	32.6	- -	38.0	+ 2 24.17	+ 14.93	33 52 41.22	+25 0 58.03	+26.61		32. Defective illumination of field.
33	45.9	39.7	- -	45.0	— 9 46.61	+ 16.91	35 50 23.48	+23 3 15.77	+23.37		
34	45.3	38.7	43.0	- -	+ 48.34	+ 15.34	34 26 2.21	+24 27 37.04	+23.42		
35	- - - -	- -	- -	- -	— 38.57	+ 15.31	34 24 35.27	+24 29 3.98	+25.56		
36	45.3	38.7	43.0	- -	+ 2 36.11	+ 5.91	34 47 40.92	+24 5 58.33	- - -		
37	- - - -	- -	48.0	46.3	- - -	- - -	- - - -	- - - -	- - -		
38	- - - -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
39	43.9	35.8	- -	42.7	+ 1 14.95	+ 15.44	34 26 28.29	+24 27 10.96	+37.53		
40	42.0	32.8	40.0	43.3	+ 1 51.63	+ 29.65	46 12 20.18	+12 41 19.07	+38.80		
41	37.3	31.0	- -	39.0	+ 1 0.92	+ 2 11.32	85 23 14.86	—26 29 35.61	+34.13		
42	- - - -	-	-	- -	+ 38.59	+ 2 11.29	85 22 52.50	—26 29 13.25	+34.13		
43	36.5	31.3	- -	- -	+ 54.71	+ 1 19.73	72 52 13.91	—13 58 34.66	+36.76		
44	36.5	31.9	38.3	40.0	— 2 55.12	+ 2 37.31	89 9 43.74	—30 16 4.49	+32.97		
45	42.8	32.8	40.8	42.7	— 1 34.79	+ 2 6.26	84 35 32.62	—25 41 53.37	+20.41		45. Clear overhead, but misty near the horizon. Stars blurred and slightly unsteady.
46	41.8	33.0	40.0	- -	— 47.34	+ 2 0.80	83 36 13.23	—24 42 33.98	+21.06		
47	41.0	32.6	40.0	- -	— 3 21.93	+ 2 8.95	84 53 49.39	—26 0 10.14	+23.67		
48	40.4	32.2	39.9	- -	— 39.93	+ 2 0.19	83 26 21.08	—24 32 41.83	+24.24		47. Micrometer reading assumed to be 33.8966 instead of 23.8966.
49	- - - -	- -	- -	- -	+ 55.70	+ 18.06	34 41 13.26	+24 12 25.99	- - -		
50											
51	- - - -	-	45.0	44.0	- - -	- - -	- - - -	- - - -	- - -		
52	- - - -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
53											
54	- - - -	- -	46.3	45.0	- - -	- - -	- - - -	- - - -	- - -		
55	41.3	30.0	39.8	40.9	— 1 50.24	+ 1 32.79	76 49 46.70	—17 56 7.45	+ 7.23		
56	39.9	29.5	36.0	41.7	— 5 2.31	+ 3 16.75	93 3 16.74	—34 9 37.49	+11.33		
57	38.7	28.8	35.0	41.0	— 1 46.09	+ 17.85	36 18 34.98	+22 35 4.27	+ 5.47		57. Unsteady.
58	37.5	29.4	34.0	- -	+ 1 14.93	+ 17.88	36 21 36.03	+22 32 3.22	+ 8.10		
59	- - - -	- -	- -	- -	— 1 47.94	+ 1 28.09	75 24 43.53	—16 31 4.28	+19.38		
60	37.0	29.2	34.0	39.9	— 2 20.16	+ 2 27.11	87 40 9.83	—28 46 30.58	+20.04		
61	36.8	29.2	- -	- -	— 1 36.13	+ 2 13.88	85 40 41.70	—26 47 2.45	+21.69		
62	35.8	29.0	33.9	39.9	+ 40.41	+ 11.31	30 30 54.87	+28 22 44.38	+19.10		
63	- - - -	- -	33.0	40.0	— 9 56.51	+ 17.30	35 50 25.11	+23 3 14.14	+26.74		
64	35.0	28.9	- -	- -	+ 37.75	+ 17.50	36 0 59.57	+22 52 39.68	+23.29		
65	35.0	28.6	32.3	39.9	— 9 36.84	+ 15.51	34 15 43.22	+24 37 56.03	+26.67		

* In the column headed Observer, the letters H., Y., and C. F. indicate that the observations opposite them were made by Professor Hubbard, Professor Yarnall, and Mr. Charles Ferguson.

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Feb. 3	1	λ Cancri	- -	- - - -	- -	- -	- -	- -	- -	- -	31.3600	- - -	- -
	2	Mars, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.8518	- - -	- -
4	3	Nadir	- -	199 59 57.6	62.4	65.8	65.4	65.5	58.4	62.52	30.7105	30.6716	- -
	4	Nadir	- -	58.0	61.7	65.7	65.6	65.0	58.2	62.37			
	5	α Canis Majoris	- -	75 24 57.8	60.8	66.1	65.3	66.0	56.4	62.07	32.3100	- - -	29.843
	6	ε Canis Majoris	- -	87 39 57.0	60.0	61.5	61.5	62.8	54.0	59.47	32.7690	- - -	29.846
	7	δ Geminorum	- -	36 34 57.6	60.8	64 5	63.9	65.7	56.8	61.55	27.4890	- - -	29.846
	8	(* 25) W.	- -	48 24 58.0	61.3	65.2	65.4	66.8	58.5	62.53	30.5800	- - -	29.842
	9	Mars	- -	34 19 57.9	62.1	65.4	65.0	64.9	58.0	62.22	30.7290 .0990	- - -	29.845
	10	υ^2 Cancri	- -	- - - -	-	- -	-	- -	- -	- -	34.9990	- - -	- -
	11	υ^3 Cancri	- -	- - - -	- -	- -	- -	- -	- -	- -	31.7998	- - -	- -
7	12	Nadir	-	199 59 57.8	60.4	64.4	62.9	65.4	57.0	61.32	30.7324	30.7115	- -
	13	Nadir	- -	57.0	61.4	64.0	62.4	66.6	56.6				
	14	Anonymous	- -	7 4 55.8	59.6	62.9	61.3	65.5	53.8	59.82	30.8566	- - -	30.162
	15	δ Geminorum	- -	36 39 58.0	60.8	64.3	62.8	66.0	56.3	61.37	32.3057	- - -	30.161
	16	α Canis Minoris	- -	53 19 57.8	60.3	62.6	61.7	65.6	57.3	60.88	33.5722	- - -	30.168
9	17	Nadir	- -	199 59 58.0	60.2	62.3	62.8	64.3	57.6	60.87	30.7154	30.6998	- -
	18	Nadir	- -	58.4	60.4	62.4	63.0	64.6	57.8	61.10			
	19	α Orionis	- -	51 29 56.6	58.0	60.4	60.8	63.5	54.7	59.00	30.0908	- - -	30.110
	20	μ Geminorum	- -	36 19 58.1	60.1	63.0	63.1	65.0	55.6	60.82	32.3618	- - -	30.100
	21	α Canis Majoris	- -	75 24 58.2	60.0	63.0	62.9	64.5	53.4	60.33	32.2758	- - -	30.115
	22	β Geminorum	- -	30 29 58.4	62.0	63.1	63.4	66.4	57.7	61.83	30.0428	- - -	30.099
	23	Mars, N.	- -	34 4 57.8	62.4	64.7	65.0	65.5	57.1	62.08	31.5898	- - -	- -
	24	Mars, N.	- -	58.2	62.4	65.5	65.6	66.0	57.5	62.53			
	25	λ Cancri	- -	34 24 58.1	63.1	63.5	66.1	64.6	56.0	61.90	31.3552	- - -	30.099
14	26	Nadir	- -	199 59 57.3	57.2	59.0	60.0	61.7	53.5	58.07	30.6570	30.6853	- -
	27	Nadir	- -	57.5	57.6	58.8	60.4	61.9	53.5	58.28			
	28	α Canis Majoris	- -	75 24 56.8	57.3	60.4	61.1	62.5	51.0	58.19	32.2750	- - -	30.265
	29	ε Canis Majoris	- -	87 39 57.5	57.0	58.1	58.4	61.0	49.2	56.87	32.7428	- - -	30.270
19	30	Nadir	- -	199 59 53.4	58.9	59.0	61.7	61.5	53.0	57.92	30.6998	30.7331	- -
	31	Nadir	- -	53.2	59.1	59.4	61.8	61.3	52.6	57.90			
	32	α Aurigæ	- -	13 4 57.7	63.7	64.2	65.1	65.7	55.5	61.98	32.4798	- - -	30.542
	33	ε Orionis	- -	60 9 58.7	62.9	64.9	66.0	66.8	56.0	62.55	30.1550	- - -	30.522
	34	ε Canis Majoris	- -	87 39 57.7	64.1	63.0	66.7	65.0	55.9	62.07	32.8615	- - -	30.538
	35	Mars, N.	- -	33 49 58.4	64.9	67.0	69.0	66.2	57.3	63.80	29.7953	- - -	30.567
	36	Mars, S.	- -	58.6	65.1	67.8	68.7	66.6	57.4	64.03	30.0985	- - -	
24	37	α Tauri	- -	42 42 26.4	25.4	29.5	25.2	37.8	23.8	28.02	32.2360	- - -	29.328
	38	α Tauri	- -	25.4	25.5	29.1	26.5	36.6	22.2	27.55			
	39	Nadir	- -	200 2 25.6	23.1	27.7	23.7	34.0	22.8	26.15	33.0240	30.6952	- -
	40	Nadir	- -	25.5	22.6	28.4	24.3	32.1	25.0	26.32			
	41	α Aurigæ	- -	13 4 59.0	69.3	62.7	59.9	67.8	57.3	62.67	32.5090	- -	29.328
	42	β Tauri	- -	30 24 58.0	56.9	60.3	58.9	66.3	57.2	59.60	30.9180	- - -	30.326
25	43	α Leporis	- -	76 49 60.0	59.9	62.5	62.7	69.7	59.4	62.37	32.3736	- - -	29.605
	44	Nadir	- -	199 59 58.9	59.8	60.0	61.5	66.6	59.4	61.03	30.7488	30.7326	- -
	45	Nadir	- -	59.4	59.4	59.8	62.3	66.6	58.8	61.05			
	46	ε Canis Majoris	- -	87 39 57.5	56.5	58.6	62.8	63.6	54.4	58.90	32.6442	- - -	29.672
	47	δ Geminorum	- -	36 39 57.2	53.7	51.3	57.4	62.0	54.5	57.02	32.2534	- - -	29.680
	48	82 Geminorum	- -	35 24 58.8	56.5	59.8	58.9	64.5	55.8	59.05	32.4080	- - -	29.682
	49	Anonymous	- -	33 49 57.8	58.3	63.0	60.0	64.6	56.8	60.08	30.3676	- - -	- -
	50	Mars	-	58.0	58.6	62.4	61.0	64.8	56.8	60.27	28.2390 27.9357	- - -	- -
26	51	Moon, S.	- -	44 57 28.5	26.3	29.0	29.0	36.7	24.0	28.92	29.6271	- -	30.086
	52	Moon, S.	- -	27.5	26.1	29.9	29.0	35.0	24.0	28.58			
	53	α Tauri	- -	42 42 27.6	27.1	29.3	29.8	37.4	24.5	29.28	32.2620	-	30.102
	54	α Tauri	- -	26.3	26.3	30.2	30.0	34.2	23.6	28.43			
	55	Nadir	- -	199 59 59.2	56.3	61.6	61.8	61.9	56.3	59.52	30.6870	30.6944	- -
	56	α Aurigæ	-	13 4 59.5	61.3	63.2	63 0	66.5	56.7	61.70	32.4580	- - -	30.108
March 3	57	Nadir	- -	199 59 57.8	56.2	61.3	61.4	62.3	54.1	58.85	30.6870	30.7051	- -
	58	α Aurigæ	-	13 4 59.6	61.2	64.0	64.1	66.7	55.5	61.85	32.5020	- - -	30.592
	59	β Tauri	- -	30 24 60.1	59.7	65.5	65.1	67.2	57.5	62.52	30.9220	- - -	30.592
	60	δ Orionis	- -	59 17 30.7	29.5	31.8	33.5	39.7	28.0	32.20	30.5080	- - -	- -
	61	δ Orionis	- -	28.7	28.9	32.0	33.5	38.1	26.4	31.27			
	62	α Columbæ	- -	92 59 59.6	61.0	62.8	65.1	64.9	56.0	61.57	30.7220	- - -	30.598
	63	α Orionis	- -	51 39 58.2	58.8	63.0	64.5	65.5	56.4	61.07	30.1180	- - -	30.600

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	- -	− 43.39	+ 15.67	34 24 36.83	+24 29 2.42	+25.37	C.F.	
2	- -	- -	- -	- -	− 1 14.52	+ 19.12	34 24 9.15	+24 29 30.10	- - -		
3											
4	- -	- -	46.0	- -	- - -	- -	- - - -	- - - -	- - -		5. Misty night; bright moon; stars unsteady and dim.
5	43.0	34.0	39.8	- -	− 1 42.72	+ 1 26.58	75 24 45.93	−16 31 6.68	+19.57		
6	41.5	34.3	38.0	- -	− 2 11.76	+ 2 24.52	87 40 12.23	−28 46 32.98	+20.24		6. Taken just over a mist-bank.
7	41.5	34.5	38.0	42.3	+ 3 20.02	+ 17.87	36 38 39.44	+22 14 59.81	+15.49		
8	39.3	31.8	- -	41.8	+ 5.85	+ 32.56	48 25 40.94	+10 27 58.31	+20.86		8. Dim and unsteady.
9	37.8	31.3	37.0	41.0	− 12.68	+ 12.28	34 20 1.82	+24 33 37.45	- - -		
10	- -	-	- -	- -	− 4 31.76	+ 15.31	34 15 45.77	+24 37 53.48	+26.64		
11	- -	-	- -	- -	− 1 10.91	+ 15.38	34 19 6.69	+24 34 32.56	+27.08		
12											
13	- -	- -	54.0	49.0	- -	- - -	- - - -	- - - -	- - -		
14	48.3	37.8	- -	44.0	− 9.17	− 13.77	7 4 36.88	+51 49 2.37	- - -		14. First star.
15	47.7	38.3	43.3	- -	− 1 39.94	+ 17.93	36 38 39.36	+22 14 59.89	+15.39		
16	46.7	37.8	42.1	46.8	− 2 59.55	+ 39.41	53 17 40.74	+ 5 35 58.51	+23.65		
17											
18	- -	- -	48.0	- -	- - -	- - -	- - -	- - - -	- - -		
19	45.2	33.0	- -	47.8	+ 38.30	+ 37.10	51 31 14.40	+ 7 22 24.85	+ 4.55		
20	43.8	32.0	- -	- -	− 1 44.20	+ 17.74	36 18 34.36	+22 35 4.89	+ 5.26		20. Extremely unsteady.
21	42.8	32.3	41.8	- -	− 1 38.81	+ 1 27.68	75 24 49.20	−16 31 9.95	+20.31		21. Unsteady.
22	41.0	30.1	39.0	- -	+ 41.29	+ 11.28	30 30 54.40	+28 22 44.85	+18.65		22. Extremely unsteady.
23											23. Extremely unsteady.
24	-	- -	- -	43.0	− 55.80	+ 18.71	34 4 25.21	+24 49 14.04	- - -		
25	40.0	29.3	- -	- -	− 40.98	+ 15.67	34 24 36.59	+24 29 2.66	+25.14		25. Unsteady.
26											26. Mercury unsteady; windy night.
27	- -	- -	44.0	46.0	- - -	- - -	- - - -	- - - -	- - -		
28	42.6	26.9	- -	- -	− 1 39.67	+ 1 29.10	75 24 47.62	−16 31 8.37	+21.05		
29	41.3	26.6	36.0	41.8	− 2 9.23	+ 2 28.93	87 40 16.57	−28 46 37.32	+22.20		
30											
31	- -	- -	42.0	41.5	- - -	- - -	- - - -	- - - -	- -		
32	36.8	26.4	- -	- -	− 1 49.54	− 7.57	13 3 4.87	+45 50 34.38	−13.86		
33	34.1	26.2	31.9	- -	+ 36.40	+ 52.56	60 11 31.51	− 1 17 52.26	+ 4.48		33. Micrometer should be 29.8550.
34	30.4	24.9	- -	- -	− 2 13.72	+ 2 30.93	87 40 19.28	−28 46 40.03	+22.97		34. Very dim.
35	30.0	23.9	- -	- -	+ 58.84	+ 12.75	33 51 15.50	+25 2 33.22	- -		
36					+ 39.92	+ 12.74	33 50 56.57				
37	50.5	51.1	51.0	50.5	− 1 36.62	+ 23.76	42 41 14.92	+16 12 24.33	+10.49	H.	37, 38. Observation perfectly satisfactory.
38											
39											39, 40. Mercury exceedingly unsteady; high wind.
40	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- -		
41	50.7	50.0	-	- -	− 1 53.77	− 6.93	13 3 1.97	+45 50 37.28	−14.06		
42	50.8	49.7	- -	-	− 14.04	+ 10.83	30 24 56.39	+28 28 42.86	− 6.79		42. Stars beautifully steady, but observation unsatisfactory.
43	56.5	49.3	52.0	- -	− 1 42.88	+ 1 27.74	76 49 47.23	−17 56 7.98	+ 9.14		43. Over a mist.
44											44, 45. High wind from northwest; mercury unsteady.
45	-	- -	58.0	57.3	- - -	- - -	- - - -	- - - -	- - -		
46	54.0	45.9	49.0	- -	− 1 59.99	+ 2 20.21	87 40 19.12	−28 46 39.87	+23.84		46. Taken from over a mist-bank.
47	53.2	44.9	- -	- -	− 1 35.35	+ 17.40	36 38 39.07	+22 15 0.18	+14.69		
48	52.0	44.2	- -	- -	− 1 45.04	+ 16.05	35 23 30.06	+23 30 9.19	+19.19		
49	- -	- -	- -	- -	+ 23.10	+ 14.37	33 50 37.55	+25 3 1.70	+20.08		
50	- -	- -	- -	- -	+ 2 36.74	+ 11.80	33 52 48.81	+25 0 41.01	- -		
					+ 2 55.60	+ 11.81	33 53 7.68				
51	50.0	40.0	- -	- -	+ 1 7.03	−37 26.34	44 21 9.44	+14 32 29.81	- - -		51. Moon's limb quite faint, seen through haze.
52											
53	48.9	38.0	- -	- -	− 1 38.29	+ 25.03	42 41 15.59	+16 12 23.66	−10.50		53. Very unsteady.
54											
55	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
56	48.5	37.0	- -	- -	− 1 50.58	− 7.32	13 3 3.80	+45 50 35.45	−14.08		56. Very unsteady.
57	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
58	46.2	36.7	- -	- -	− 1 52.70	− 7.44	13 3 1.71	+45 50 37.54	−14.10		
59	46.1	37.0	- -	- -	− 13.66	+ 11.21	30 25 0.07	+28 28 39.18	− 6.82		
60	- -	36.9	- -	- -	+ 12.52	+ 49.89	59 18 34.04	− 0 24 54.79	+ 4.02		
61											
62	45.9	36.0	- -	- -	− 1.07	+ 3 17.62	93 3 18.12	−34 9 38.87	+14.38		62. Beautifully defined and steady.
63	45.5	35.0	- -	- -	+ 36.95	+ 37.80	51 41 15.82	+ 7 22 23.43	+ 5.01		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
March 6	1	α Columbæ	-	92 59 59.1	59.9	61.3	63.8	65.0	56.3	60.90	30.6930	- - -	30.088
	2	α Orionis	-	51 29 58.3	59.4	62.6	63.4	66.2	57.0	61.15	30.1130	- - -	30.094
	3	Nadir	- -	199 59 58.5	58.2	62.8	63.1	63.5	56.5	60.43	30.7460	30.7396	- -
	4	μ Geminorum	- -	36 19 59.0	58.3	61.8	62.2	65.1	55.8	60.37	32.3920	- - -	30.095
	5	α Canis Majoris	- -	75 24 59.9	59.4	64.0	64.8	66.3	56.4	61.80	30.2950	- - -	30.106
10	6	α Aurigæ	- -	13 4 59.4	60.4	65.3	61.0	66.2	59.2	61.92	32.5296	- - -	30.241
	7	α Columbæ	- -	93 4 61.1	62.0	63.6	61.8	64.5	58.0	61.83	35.3898	- - -	30.241
	8	α Canis Majoris	- -	75 24 60.5	60.6	64.8	63.0	65.1	56.9	61.82	32.2780	- - -	30.272
	9	28 Canis Majoris	- -	85 24 60.0	62.6	66.4	64.2	64.8	58.5	62.75	32.8424	- - -	30.282
	10	α^2 Geminorum	- -	26 39 61.4	62.9	64.3	64.3	64.7	58.9	62.75	29.8062	- - -	30.290
	11	82 Geminorum	- -	35 24 60.4	61.7	63.7	62.6	64.3	57.8	61.75	32.4830	- - -	30.294
	12	Mars, S.	- -	34 19 59.0	61.5	62.3	62.7	63.1	58.1	61.12	31.4740	- - -	30.310
	13	Mars, N.	- -	- - -	- -	-	- -	- -	-	- -	31.2600	- - -	- -
	14	B.A.C. 2703	- -	35 59 59.8	60.6	63.3	63.4	63.9	57.1	61.35	30.0756	- - -	30.315
	15	Nadir	- -	199 59 60.4	62.5	64.4	65.3	63.2	57.5	62.22	30.7869	30.7530	- -
	16	Nadir	- -	60.0	62.7	63.9	65.2	63.4	57.8	62.17			
15	17	α Aurigæ	- -	13 4 59.0	57.5	64.2	58.0	66.3	58.5	60.58	32.5012	- - -	29.775
	18	δ Orionis	- -	59 19 59.7	56.0	65.4	57.5	66.4	60.5	60.92	32.8332	- - -	29.775
	19	α Orionis	- -	51 29 60.5	57.8	66.5	60.1	66.1	59.3	61.72	30.0932	- - -	29.778
	20	Nadir	- -	199 59 60.9	59.2	64.9	60.3	66.0	60.8	62.02	30.7762	- - -	- -
	21	Weisse VII, 320	- -	46 39 60.4	56.4	64.2	58.8	65.0	58.8	60.60	24.2030	- - -	29.840
	22	α Canis Minoris	- -	53 14 59.7	54.5	61.8	58.3	62.3	57.7	59.05	28.7060	- - -	29.848
	23	Mars, S.	- -	34 34 60.0	56.3	64.9	60.1	63.5	58.8	60.60	30.8575	- - -	29.852
	24	Mars, N.	- -	- - -	- -	-	- -	-	- -	- -	30.6623	- - -	- -
	25	λ Cancri	- -	34 24 60.0	56.4	64.0	58.9	63.3	58.3	60.15	31.3666	- -	29.852
18	26	δ Orionis	- -	59 19 60.4	58.7	68.0	61.8	66.4	58.9	62.37	32.8926	- - -	30.022
	27	α Orionis	-	51 29 60.0	58.9	66.8	63.6	64.4	57.4	61.85	30.1314	- - -	30.045
	28	μ Geminorum	- -	36 19 60.0	57.0	68.2	62.5	62.4	55.8	60.98	32.3830	- - -	30.083
	29	Nadir	- -	199 59 58.4	63.0	65.9	69.9	61.6	58.8	62.93	30.7320	30.6831	- -
	30	Nadir	- -	58.4	63.8	66.0	70.0	61.8	59.4	63.23			
	31	82 Geminorum	-	35 24 59.8	60.0	66.9	66.6	63.6	57.4	62.38	32.4792	- - -	30.105
	32	Mars, N.	- -	34 44 59.8	60.0	66.7	65.6	61.2	55.8	61.52	30.0003	- - -	30.105
	33	Mars, S.	-	- - -	- -	- -	-	- -	- -	- -	30.1810	- - -	- -
	34	B.A.C. 2703	- -	35 59 60.5	59.8	67.0	66.2	63.8	56.0	62.22	30.0477	- - -	30.105
23	35	ε Orionis	- -	60 9 60.2	58.0	66.0	57.5	66.0	59.0	61.12	29.7876	- - -	29.423
	36	α Orionis	- -	51 29 59.9	60.3	65.0	60.5	66.9	58.3	61.82	30.1414	- -	29.423
	37	μ Geminorum	- -	36 19 59.8	57.7	65.0	60.9	65.2	57.4	61.00	32.3948	- - -	29.423
	38	51 Cephei	- -	331 39 60.3	56.5	65.0	60.1	65.3	57.9	60.85	31.5524	- - -	29.460
	39	δ Geminorum	- -	36 39 59.9	61.0	64.3	63.4	66.5	57.4	62.08	32.3638	- - -	29.460
	40	α^2 Geminorum	- -	26 39 59.3	61.3	63.2	64.8	64.9	57.6	61.85	29.8006	- - -	29.460
	41	15 Argus	- -	82 44 60.0	60.7	64.1	63.8	67.3	57.0	62.15	30.9380	- - -	29.475
	42	Nadir	- -	199 59 60.6	61.9	62.9	65.5	64.5	58.1	62.25	30.7776	30.7406	- -
	43	Nadir	- -	60.4	62.1	63.1	65.7	65.0	58.1	62.40			
24	44	Mars, S.	- -	35 9 59.8	60.2	61.8	64.9	63.2	57.0	61.15	30.8940	- - -	29.335
	45	Mars, N.	- -	- - -	- -	-	- -	-	- -	- -	30.7280	- - -	- -
	46	ε Hydræ	- -	51 54 60.2	61.7	64.1	65.8	64.5	59.3	62.60	30.1784	- - -	29.355
	47	α Hydræ	-	66 54 59.9	61.0	66.6	66.5	65.6	60.0	63.27	31.8194	- - -	29.355
	48	α Leonis	- -	46 9 60.0	60.9	64.8	64.8	65.9	57.5	62.32	28.9460	- - -	29.360
	49	Nadir	- -	199 59 59.4	61.1	65.3	65.0	62.8	58.8	62.07	30.7761	30.7419	- -
	50	Nadir	- -	59.4	61.3	65.2	65.4	63.4	59.1	62.30			
25	51	82 Geminorum	- -	35 24 60.2	60.2	62.4	63.2	65.5	58.3	61.63	32.4502	- - -	29.840
	52	Mars, S.	- -	35 14 59.0	58.5	61.8	62.9	64.3	57.1	60.60	36.2500	- - -	29.845
	53	Mars, N.	- -	- - -	-	-	- -	- -	- -	- -	36.0680	- - -	- -
	54	ε Hydræ	- -	51 54 58.6	59.4	61.0	63.0	63.6	58.7	60.72	30.1248	- - -	29.845
	55	α Hydræ	- -	66 54 59.9	60.1	64.2	63.0	65.0	59.0	62.87	31.7964	- - -	29.845
	56	ε Leonis	- -	34 24 59.9	60.2	62.9	63.6	64.1	58.0	61.45	28.5744	- -	29.847
	57	α Leonis	- -	46 9 59.9	60.0	64.1	62.4	66.2	57.4	61.67	28.9262	- - -	29.849
	58	Nadir	- -	199 59 60.0	60.7	63.0	64.0	64.4	57.4	61.58	30.7786	30.7521	- -
	59	Nadir	- -	60.0	60.8	63.5	64.1	64.8	57.8	61.83			
31	60	λ Cancri	- -	34 24 59.2	58.5	62.0	62.8	61.5	56.8	60.13	31.4156	- -	29.825
	61	δ Cancri	- -	40 9 60.0	59.0	63.8	64.3	64.9	59.5	61.92	29.2440	- - -	29.830
	62	B.A.C. 3194	- -	33 4 60.1	63.2	65.2	66.0	65.0	58.5	63.00	31.1332	- - -	29.846
	63	B. Z. 345, 44	- -	33 49 59.3	61.0	65.7	64.2	65.2	58.2	62.27	31.1476	- - -	29.852
	64	α Leonis	- -	46 9 60.1	60.8	64.0	63.2	63.0	55.2	61.05	28.9588	- - -	29.888
	65	γ Leonis	- -	38 19 60.2	62.5	67.5	68.0	65.6	59.6	63.90	32.6922	- - -	29.888
	66	Nadir	- -	199 59 59.8	62.3	65.0	66.8	61.3	58.7	62.32	30.8047	30.7676	- -
	67	Nadir	- -	59.9	62.7	65.1	66.8	61.5	58.7	62.45			

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	48.6	38.5	- -	- -	+ 2.93	+ 3 13.32	93 3 17.15	−34 9 37.90	+14.44	C.F.	
2	48.2	38.0	- -	- -	+ 39.42	+ 36.70	51 31 17.27	+ 7 22 21.98	+ 5.03		
3	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
4	48.0	37.2	- -	- -	− 1 43.59	+ 17.54	36 18 34.32	+22 35 4.93	+ 4.64		4. Very unsteady.
5	47.3	36.7	- -	- -	− 1 37.50	+ 1 26.95	75 24 51.25	+16 31 12.00	+23.05		5. Beautifully steady. Micrometer reading assumed to be 32.295 instead of 30.295.
6	53.2	47.0	- -	52.3	− 1 51.44	− 7.20	13 3 3.38	+45 50 35.87	−14.08		
7	53.2	47.0	- -	52.3	− 4 51.01	+ 3 10.91	93 3 21.73	−34 9 42.48	+14.56		
8	51.6	44.4	47.0	50.4	− 1 35.60	+ 1 25.95	75 24 52.17	−16 31 12.92	+23.21		
9	51.2	42.9	47.0	50.0	− 2 11.28	+ 2 9.47	85 25 0.94	−26 31 21.69	+27.22		
10	50.8	41.8	46.0	- -	+ 59.40	+ 7.01	26 41 9.16	+32 12 30.09	+13.53		
11	50.2	41.9	45.0	49.3	− 1 48.51	+ 16.46	35 23 29.70	+23 30 9.55	+18.41		
12	50.0	41.8	51.0	49.0	− 45.12	+ 12.91	34 19 28.91	+24 34 3.62	- - -		12. Neglected to place the perforated cap over the object-glass, — the planet blurred.
13	- -	- -	-	- -	− 31.68	+ 12.91	34 19 42.35				
14	49.7	41.7	44.0	50.0	+ 42.59	+ 17.18	36 1 1.12	+22 52 38.13	+21.53		
15											15. Fine night, with stars steady and fair.
16	- -	- -	48.0	52.0	- - -	- - -	- - - -	- - - -	- - -		
17	65.3	64.1	64.0	64.5	− 1 50.16	− 6.85	13 3 3.57	+45 50 35.68	−14.03		
18	65.4	63.2	63.0	64.0	− 2 11.21	+ 46.06	59 18 35.77	− 0 24 56.52	+ 4.02		
19	64.8	62.7	- -	64.0	+ 40.97	+ 34.55	51 31 17.24	+ 7 22 22.01	+ 5.04		
20	- -	- -	65.0	66.0	- - -	- - -	- - - -	- - - -	- - -		20. Clear night; no moon; stars steady and well defined.
21	64.3	58.4	61.9	- -	+ 6 50.96	+ 28.74	46 47 20.30	+12 6 18.95	+17.17		
22	63.8	59.8	- -	- -	+ 2 8.03	+ 37.29	53 17 44.37	+ 5 35 54.88	+24.72		
23	64.0	59.3	- -	65.0	− 7.15	+ 12.50	34 35 5.95	+24 18 27.12	- - -		
24	- -	- -	- -	- -	+ 5.22	+ 12.50	34 35 13.32				
25	64.3	58.8	- -	65.0	− 38.88	+ 14.63	34 24 35.90	+24 29 3.35	+22.90		
26	55.0	37.3	44.0	- -	− 2 18.81	+ 48.90	59 18 32.46	− 0 24 53.21	+ 4.03		
27	53.8	36.8	44.8	- -	+ 34.73	+ 36.71	51 31 13.29	+ 7 22 25.96	+ 5.01		
28	52.0	35.8	44.0	- -	− 1 46.58	+ 17.58	36 18 31.90	+22 35 7.35	+ 4.47		
29											29. Clear sky; stars very unsteady and dim, especialy Mars.
30	- -	- -	47.5	49.0	- - -	- - -	- - - -	- - - -	- -		
31	49.0	33.8	- -	- -	− 1 52.64	+ 16.62	35 23 26.36	+23 30 12.89	+18.00		
32	38.0	- -	- -	- -	+ 42.88	+ 13.67	34 45 58.07	+24 7 46.80	- - -		
33	- -	- -	- -	- -	+ 31.65	+ 13.67	34 45 46.84				33. Excessively unsteady.
34	38.0	33.0	- -	- -	+ 39.93	+ 17.38	36 0 59.53	+22 52 39.72	+21.05		34. Dim.
35	52.1	44.7	48.3	- -	+ 59.80	+ 48.73	60 11 49.65	− 1 18 10.40	+ 4.86		
36	52.1	44.7	48.3	- -	+ 37.72	+ 35.39	51 31 14.93	+ 7 22 24.32	+ 4.96		36. Clock fast $23^s.29$.
37	51.8	43.9	47.0	51.0	− 1 43.71	+ 16.92	36 18 34.21	+22 35 5.04	+ 4.42		
38	50.4	42.0	- -	- -	− 50.86	− 1 5.27	331 38 4.72	+87 15 34.53	−12.09		
39	50.4	42.0	- -	- -	− 1 41.76	+ 17.37	36 38 37.69	+22 15 1.56	+13.62		
40	50.4	42.0	- -	- -	+ 58.97	+ 6.81	26 41 7.63	+32 12 31.62	+12.64		
41	50.0	41.9	46.0	50.0	− 12.43	+ 1 52.47	82 46 42.19	−23 53 2.94	+34.36		
42											
43	- -	- -	- -	52.0	- - -	- - -	- - - -	- - - -	- - -		
44	48.8	40.9	46.0	- -	− 9.61	+ 13.52	35 10 5.06	+23 43 28.96	- - -		44. Clock fast $23^s.05$.
45	- -	- -	- -	- -	+ 0.86	+ 13.52	35 10 15.53				
46	46.8	41.2	- -	49.0	+ 35.50	+ 36.15	51 56 14.25	+ 6 57 25.00	+31.59		
47	44.4	40.6	- -	- -	− 1 7.72	+ 1 2.04	66 54 57.59	− 8 1 18.34	+39.78		
48	44.0	40.2	- -	- -	+ 1 52.74	+ 28.62	46 12 23.68	+12 41 15.57	+39.05		
49											49. Passing clouds; wind from N. W. Stars somewhat unsteady.
50	- -	- -	49.0	50.0	- - -	- - -	- - - -	- - - -	- - -		
51	53.8	49.9	- -	- -	− 1 46.47	+ 15.95	35 23 31.11	+23 30 8.14	+17.62		51. Clock fast $22^s.78$.
52	53.3	51.3	52.0	54.0	− 5 45.11	+ 13.46	35 9 28.95	+23 44 4.64	- - -		
53	- -	- -	- -	- -	− 5 33.78	+ 13.46	35 9 40.28				
54	53.0	49.9	- -	- -	+ 39.47	+ 36.11	51 56 16.30	+ 6 57 22.95	+31.57		
55	52.9	48.8	51.0	- -	− 1 5.64	+ 1 2.00	66 54 59.23	− 8 1 19.98	+39.79		
56	52.5	48.1	50.0	53.8	+ 1 14.07	+ 15.00	34 26 30.50	+24 27 8.73	+33.97		56. Micrometer assumed to be 29.5744 instead of 28.5744.
57	51.9	47.3	- -	- -	+ 1 54.62	+ 28.65	46 12 24.94	+12 41 14.31	+39.01		
58											58. Fine night; no moon; with some passing clouds.
59	- -	- -	- -	52.7	- - -	- - -	- - - -	- - -	- - -		
60	51.7	38.8	- -	- -	− 40.52	+ 15.21	34 24 34.82	+24 29 4.43	+21.86		
61	49.0	39.2	- -	- -	+ 1 35.83	+ 21.78	40 11 59.53	+18 41 39.72	+27.79		
62	47.8	38.0	- -	- -	− 22.88	+ 13.80	33 4 53.92	+25 48 45.33	+30.17		
63	47.0	38.0	- -	- -	− 23.77	+ 14.62	33 49 53.12	+25 3 46.13	+31.43		
64	45.9	37.4	- -	- -	+ 1 53.56	+ 29.30	46 12 23.91	+12 41 15.34	+38.69		
65	45.5	37.3	- -	- -	− 2 0.85	+ 19.70	38 18 22.75	+20 35 16.50	+37.86		
66											
67	- -	- -	50.0	52.0	- - -	- - -	- - - -	- - - -	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
April 1	1		22 50								33.1710		
	2		24 52								33.0600		
	3	Polaris	26 42	330 24 56.0	53.6	63.0	58.3	59.9	51.3	57.02	32.9520	- -	30.040
	4		28 30								32.8680		
	5		30 28								32.7400		
	6		41 25								32.3650		
	7		43 5								32.3130		
	8	Polaris	44 30	- - - -	- -	- -	- -	- -	- -	- -	32.2620	- -	30.032
	9		45 45								32.2340		
	10		47 18								32.1890		
	11		59 4								32.0770		
	12		1 0 28								32.0610		
	13	Polaris	1 54	330 24 57.0	51.0	61.9	57.8	59.6	50.5	56.30	32.0550	- -	30.032
	14		3 20								32.0690		
	15		1 4 44								32.0790		
	16		1 16 25								32.2530		
	17		1 17 52								32.2960		
	18	Polaris	19 30	- - - -	- -	- -	- -	- -	- -	- -	32.3310	- -	30.018
	19		21 1								32.3890		
	20		22 30								32.4440		
	21		1 33 18								32.9110		
	22		34 49								32.9890		
	23	Polaris	36 55	330 24 55.7	52.2	61.0	57.7	61.4	49.9	56.32	33.0400	- -	30.005
	24		38 58								33.1850		
	25		40 40								33.3460		
	26	Nadir	-	199 59 61.0	59.4	64.8	62.9	65.5	58.2	61.97	30.8002	30.7680	- -
	27	Nadir	- -	61.3	59.5	64.9	63.3	65.8	58.3	62.18			
7	28	Nadir	- -	199 59 53.8	53.6	59.1	57.1	57.5	53.9	55.83	30.6791	30.7439	- -
	29	Nadir	-	53.9	53.8	59.2	57.3	57.7	54.0	55.98			
	30	B. Z. 275, 106	- -	37 49 58.6	58.4	63.9	62.0	63.2	59.8	60.98	30.7626	- - -	30.039
	31	Weisse X, 224	- -	63 29 58.5	56.0	61.6	60.0	60.3	57.5	58.98	29.5943	- - -	30.037
	32	Weisse X, 229	- -	- - - -	- -	- -	- -	- -	- -	- -	27.6276	- - -	- -
	33	Weisse X, 879	- -	73 19 58.0	58.8	64.4	62.8	63.3	58.1	60.90	29.3936	- -	30.028
	34	B. Z. 353, 57	- -	34 44 59.1	59.5	64.8	62.1	64.0	58.8	61.38	31.2466	- -	30.024
	35	γ Ursæ Majoris	- -	4 19 59.2	58.0	65.1	62.5	64.6	59.4	61.47	28.0572	- - -	30.019
10	36	Nadir	-	199 59 60.2	59.0	64.4	63.0	63.2	57.7	61.25	30.7844	30.7642	-
	37	Nadir	- -	60.5	59.0	64.5	63.3	63.2	57.7	61.37			
	38	Weisse X, 224	- -	63 29 60.2	58.4	62.3	60.3	62.0	55.9	59.85	29.5826	- -	29.985
	39	Weisse X, 229	- -	- - - -	- -	- -	- -	- -	- -	- -	27.5950	- - -	- -
	40	Weisse X, 879	- -	73 19 60.4	59.0	64.9	64.5	64.9	57.0	61.78	28.3960	- -	29.968
	41	δ Leonis	- -	37 34 58.9	58.8	64.8	62.0	64.5	55.7	60.78	32.3560	- - -	29.965
	42	B. Z. 353, 57	- -	34 44 60.0	60.9	65.8	63.1	65.1	57.2	62.02	31.2756	- - -	29.963
	43	β Leonis	- -	43 29 60.0	60.6	65.3	62.7	64.3	57.3	61.70	31.4144	- - -	29.963
13	44	Nadir	- -	199 59 60.4	59.2	63.0	62.4	64.5	59.5	61.50	30.8020	30.7777	- -
	45	Nadir	- -	60.7	59.4	63.2	62.5	64.6	59.6	61.67			
	46	α Leonis	- -	46 9 60.0	57.1	62.0	59.7	63.6	56.4	59.80	28.9210	- - -	29.925
	47	Weisse X, 538	- -	69 9 60.3	58.9	64.9	63.4	66.8	58.5	62.13	31.4410	- -	29.910
	48	δ Leonis	- -	37 34 61.0	59.9	63.5	62.9	65.8	58.6	61.95	32.3838	- - -	29.889
15	49	15 Argus	- -	82 44 60.4	57.4	63.3	59.6	65.5	56.6	60.47	30.8498	- -	29.568
	50	Mars, S.	- -	37 9 60.5	59.9	66.3	59.4	68.8	58.7	62.27	30.4130	- -	29.568
	51	Mars, N.	- -	- - - -	- -	- -	-		- -		30.2390	- - -	- -
	52	Nadir	-	199 59 60.4	60.1	65.4	63.8	64.4	59.4	62.25	30.7950	30.7590	- -
	53	Nadir	- -	60.5	59.9	65.7	63.9	64.8	59.5	62.38			
	54	B. Z. 43	- -	67 59 59.4	57.9	63.8	62.8	63.8	59.7	61.23	29.8490	30.7590	29.623
	55	δ Leonis	- -	37 34 59.5	58.8	63.3	58.4	63.5	58.1	60.27	32.3580	- -	29.635
	56	B. Z. 476	- -	36 4 59.8	58.8	63.6	60.4	64.1	56.6	60.55	33.7400	- -	29.638
16	57	α Andromedæ	- -	30 34 59.8	57.5	65.0	61.9	64.5	57.7	61.07	28.5950	- - -	29.815
	58		21 28								33.1780		
	59		23 24								33.0510		
	60	Polaris I.	25 18	- - - -	- -	- -	- -	- -	- -	- -	32.9600	- -	29.810
	61		27 6								32.8630		
	62		29 2								32.7490		
	63		39 54								32.3250		
	64		41 39								32.2640		
	65	Polaris II.	43 5	330 24 58.5	57.1	66.5	60.0	63.8	53.8	59.95	32.2210	- -	29.808
	66		44 15								32.2080		
	67		45 55								32.1720		

Number.	THERMOMETERS At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1										C. F.	The times given in column 4, under the head of "Hour Angle," are the times at which the micrometer readings were taken.
2											
3	54.1	56.3	- -	- -	— 1 18.89	— 1 7.62	330 22 30.51				
4											
5											
6											
7											
8	54.3	56.0	- -	- -	— 1 20.87	— 1 7.64	330 22 28.15				
9											
10											
11											
12											
13	54.8	57.0	55.3	- -	— 1 21.35	— 1 7.51	330 22 27.44	+88 31 10.45	—37.27		
14											
15											
16											
17											
18	55.2	56.6	55.8	57.0	— 1 20.59	— 1 7.52	330 22 28.20				
19											
20											
21											
22											
23	55.8	56.0	55.8	57.0	— 1 19.03	— 1 7.57	330 22 29.72				
24											
25											
26											
27	- -	- -	56.0	57.0	- - -	- - -	- - - -	- - -	- - -		
28											
29	- -	- -	55.0	54.0	- - -	- - -	- - - -	- - - -	- - -		
30	53.3	41.0	- -	53.0	— 1.21	+ 19.10	37 50 18.87	+21 3 20.38	+36.25		
31	52.0	40.2	- -		+ 1 12.28	+ 56.43	63 32 7.69	— 4 38 28.44	+43.79		
32	- -	- -	- -	- -	+ 3 15.77	+ 56.50	63 34 11.25	— 4 40 32.00	+43.84		
33	50.0	39.2	-	52.0	+ 1 24.97	+ 1 19.96	73 22 45.83	—14 29 6.58	+47.39		
34	48.9	38.8	46.0	50.0	— 31.41	+ 15.69	34 44 45.66	+24 8 53.59	+41.83		
35	48.0	38.3	- -	- -	+ 2 48.76	— 16.69	4 22 33.54	+54 31 5.71	+36.82		
36											
37	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- -		
38	40.2	40.0	52.0	- -	+ 1 14.31	+ 56.42	63 32 10.58	— 4 38 31.33	+43.83		
39	- -	- -	- -	- -	+ 3 19.09	+ 56.49	63 34 15.43	— 4 40 36.18	+43.59		
40	41.2	39.4	49.0	- -	+ 1 26.10	+ 1 19.83	73 22 47.71	—14 29 8.46	+47.58		
41	48.3	39.9	48.0	- -	— 1 39.78	+ 18.79	37 33 39.79	+21 19 59.46	+41.03		
42	46.0	38.0	- -	- -	— 31.95	+ 15.69	34 44 45.76	+24 8 53.49	+41.44		
43	45.8	37.9	46.0	- -	— 40.66	+ 25.92	43 29 46.96	+15 23 52.29	+43.67		
44											
45	- -	- -	60.0	61.0	- - -	- - -	- - - -	- - - -	- - -		
46	59.0	50.4	- -	- -	+ 1 56.56	+ 28.55	46 12 24.91	+12 41 14.34	+37.91		
47	57.2	47.9	- -	- -	— 41.48	+ 1 7.33	69 10 27.98	—10 16 48.73	+46.15		
48	54.4	45.4	54.0	- -	— 1 40.69	+ 18.53	37 33 39.79	+21 19 59.46	+40.69		
49	61.4	54.9	- -	- -	— 5.76	+ 1 49.86	82 46 44.57	—23 53 5.32	+35.02		
50	61.4	54.8	- -	- -	+ 21.91	+ 15.49	37 10 39.67	+21 42 54.18	- - -		
51	-	- -	- -	- -	+ 32.81	+ 15.49	37 10 50.57				
52											
53	- -	- -	60.0	60.5	- - -	- - -	- - - -	- - - -	- - -		
54	57.8	50.3	56.0	58.5	+ 57.09	+ 1 3.78	68 2 2.10	— 9 8 22.85	- - -		
55	56.9	48.6	55.0	58.0	— 1 40.24	+ 18.25	37 33 38.28	+21 20 0.97	+40.48		
56	56.5	48.1	54.0	- -	— 3 7.22	+ 16.58	36 2 9.91	+22 51 29.34	- - -		
57	57.1	53.5	- -	- -	+ 2 16.04	+ 10.78	30 37 27.89	+28 16 11.36	—27.70		
58											
59											
60	56.7	54.8	- -	- -	— 1 18.14	— 1 7.28	330 22 34.53				
61											
62											
63								+88 31 4.57	—32.33		
64											
65	57.0	55.0	67.8	- -	— 1 18.83	— 1 7.25	330 22 33.87				
66											
67											

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ″	″	″	″	″	″	″	r.	r.	in.
April 16	1		57 35								32.0220		
	2		58 56								32.0110		
	3	Polaris III.	1 0 24	- - - -	- -	- -	- -	- -	-	- -	33.0000	- -	29.808
	4		1 45								33.0156		
	5		3 16								33.0340		
	6		1 14 53								32.2110		
	7		16 18								32.2520		
	8	Polaris IV.	18 1	330 24 58.8	56.9	66.8	59.8	63.5	54.1	59.98	32.2930	- -	29.809
	9		19 34								32.3510		
	10		21 2								32.4130		
	11		1 32 20								32.8450		
	12		33 23								32.9480		
	13	Polaris V.	35 22	- - - -	- -	- -	- -	-	- -	- -	32.0650	- -	29.808
	14		37 28								32.1590		
	15		39 5								32.2890		
	16	α Persei	- -	9 34 60.4	57.9	65.2	61.9	64.3	57.1	61.13	31.6690	- - -	29.807
	17	α Tauri	- -	42 39 60.0	58.8	65.8	60.4	64.5	57.0	61.08	29.9040	- - -	29.808
	18	Nadir	- -	199 59 60.9	57.8	64.4	60.4	66.0	58.1	61.27	30.7790	30.7595	- -
	19	α Leonis	- -	46 9 59.4	55.0	62.3	57.6	62.9	56.2	58.90	28.9080	- - -	29.838
	20	B. Z. 476	- -	36 9 60.0	58.5	63.4	58.1	63.5	58.1	60.27	28.8940	- - -	29.821
23	21	α Leonis	- -	46 9 60.0	53.3	61.6	55.6	63.2	54.4	58.02	28.9210	30.7578	29.784
	22	α Ursæ Majoris	- -	356 19 60.6	57.8	65.3	58.8	59.9	54.5	59.48	29.8300	- - -	29.765
24	23		57 52								31.9740		
	24		58 15								31.9720		
	25	Polaris	59 33	330 24 58.3	59.2	70.0	60.8	62.5	55.8	61.10	31.9650	- -	29.888
	26		1 1 0								31 9750		
	27		2 25								31.9680		
	28	Nadir	- -	199 59 60.4	57.4	66.3	59.4	64.3	57.8	60.93	30.7720	30.7578	- -
	29	Venus	- -	32 59 60.1	60.5	65.6	57.8	66.6	58.2	61.47	28.7140	- - -	29.855
26	30		46 40								32.2390		
	31		48 10								32.2030		
	32	Polaris	49 34	- - - -	- -	- -	- -	- -	- -	- -	32.1780	- -	29.788
	33		50 54								32.1500		
	34		52 33								32.0610		
	35		1 4 21								31.9990		
	36		5 36								31.9780		
	37	Polaris	7 5	330 24 58.5	56.2	62.7	55.4	62.6	54.3	58.28	31.9980	- -	29.785
	38		8 28								31.9650		
	39		10 5								31.9670		
	40		1 21 35								32.1520		
	41		22 54								32.1750		
	42	Polaris	24 38	- - - -	- -	- -	- -	-	- -	- -	32.2090	- -	29 787
	43		26 5								32.2790		
27	44	α Persei	- -	9 34 58.9	58.8	60.9	57.1	64.2	53.2	58.85	31.6370	30.7532	29.798
	45	α Tauri	- -	42 39 60.3	58.3	61.8	57.7	63.6	57.7	59.90	29.8840	- -	29.805
	46	α Aurigæ	- -	13 4 60.3	59.1	61.8	57.4	62.3	59.0	59.98	32.4380	- - -	29.801
	47	Venus	- -	32 39 60.0	60.2	61.8	58.7	65.6	60.2	61.08	28.5480	- -	29.794
	48	Nadir	- -	199 59 60.8	57.8	62.4	62.8	63.8	59.4	61.17	30.7720	30.7532	- -
	49	Nadir	- -	60.9	57.9	62.6	63.0	63.8	59.4	61.27	- - -	- - -	- -
	50	α Ursæ Majoris	- -	356 19 59.4	57.7	63.3	61.6	39.9	56.3	59.70	30.8770	- - -	29.898
	51	B. Z. 496	- -	37 39 60.3	58.0	61.6	61.8	61.9	57.3	60.15	30.1940	- - -	29.898
May 1	52	α Tauri	- -	42 39 59.4	59.2	63.2	59.1	64.2	58.7	60.63	29.8680	- - -	29.678
	53	β Orionis	-	67 14 60.2	58.8	64.4	57.9	64.9	60.0	61.03	30.3570	- - -	29.667
	54	β Tauri	- -	30 24 60.2	56.4	62.3	56.0	65.1	59.4	59.90	30.8580	- - -	29.648
	55	ε Orionis	- -	60 9 59.9	57.4	61.3	55.4	63.3	59.4	59.45	29.7240	- - -	29.640
	56	Venus	- -	32 24 60.0	57.1	59.8	55.0	63.9	57.7	58.92	30.5790	- - -	29.634
	57	Nadir	- -	199 59 59.3	53.9	57.9	56.2	60.8	59.9	58.00	30.7090	30.7387	-
	58	Nadir	- -	59.4	54.3	58.4	56.4	60.9	60.2	58.27	- - -	- - -	- -
	59	α Ursæ Majoris	- -	356 19 60.8	56.7	62.9	58.8	63.9	59.3	60.40	29 9360	- -	29.681
	60	Anonymous	- -	35 34 60.8	57.3	58.8	58.5	62.8	59.4	59.60	25.8160	- - -	29.572
	61	η Virginis	- -	58 44 61.8	56.2	60.9	57.4	64.2	60.9	60.23	32.0550	- - -	29.698
4	62	Nadir	-	199 59 57.9	54.3	63.3	60.7	59.7	56.3	58.70	30 6890	30 7089	- -
	63	β Leonis	- -	43 29 60.5	55.0	62.4	58.8	59.3	56.4	58.73	31.3800	- - -	30.415
	64	β Leonis	- -	34 9 59.8	56.4	63.6	61.5	60.8	56.9	59.83	26.9720	- - -	30.409
	65	Anonymous	- -	43 59 59.8	56.8	62.8	61.2	60.5	58.0	59.85	33.2690	- - -	30.392
6	66	Venus	- -	32 14 59.2	56.2	60.4	54.9	62.5	56.5	58.28	28.4080	- -	30.405
	67	α Canis Majoris	- -	75 24 57.9	56.5	61.8	56.6	62.3	55.4	58.42	32.1630	- - -	30.392

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1											
2											
3	57.5	57.0	61.8	- -	− 1 18.71	− 1 7.00	330 22 34.25			C.F.	
4											
5											
6											
7											
8	57.8	57.4	58.4	59.8	− 1 19.21	− 1 6.94	330 22 33.83	+88 31 4.57	−32.33		
9											
10											
11											
12											
13	58.1	57.1	- -	- -	− 1 18.11	− 1 6.97	330 22 34.90				
14											
15											
16	61.5	59.8	- -	- -	− 57.08	− 10.45	9 33 53.60	+49 19 45.65	−24.57		
17	61.6	61.3	- -	61.0	+ 53.67	+ 23.27	42 41 18.02	+16 12 21.23	− 9.82		
18	- -	- -	63.0	61.5	- - -	- -	- - - -	- - - -	- - -		
19	60.2	54.2	60.0	58.0	+ 1 56.22	+ 28.26	46 12 23.38	+12 41 15.87	+37.74		
20	57.8	49.9	- -	- -	+ 1 56.99	+ 16.82	36 12 14.08	+22 41 25.17	- - -		
21	59.4	43.8	56.0	55.0	+ 1 55.31	+ 28.79	46 12 22.12	+12 41 17.13	+37.31		
22	53.1	43.0	- -	55.0	+ 58.20	− 25.67	356 20 32.01	+62 33 7.24	+27.75		
23											
24											
25	54.9	52.0	55.0	- -	− 1 15.99	− 1 7.75	330 22 37.36	+88 31 1.89	−29.98		
26											
27											
28	- -	- -	61.3	59.5	- -	- - -	- - - -	- - - -	- - -		28. Clear sky, with mist near the horizon.
29	59.1	59.9	59.8	60.0	+ 2 8.35	+ 10.95	33 2 20.77	+25 51 18.48	- - -		
30											
31											
32	59.9	50.6	58.0	61.0	− 1 14.87	− 1 7.76	330 22 35.65	- - - -	- - -		
33											
34											
35											
36											
37	59.8	51.3	57.0	- -	− 1 16.93	− 1 7.65	330 22 33.70	+88 31 4.20	−29.46		
38											
39											
40											
41											
42	58.9	51.8	- -	59.0	− 1 14.88	− 1 7.59	330 22 35.81	- - - -	- - -		
43											
44	60.2	53.9	59.0	- -	− 55.45	− 10.81	9 33 52.59	+49 19 46.66	−22.70		
45	60.8	55.5	- -	- -	+ 54.53	+ 23.52	42 41 17.95	+16 12 21.30	− 9.89		
46	60.8	55.9	- -	61.7	− 1 45.64	− 6.97	13 3 7.37	+45 50 31.88	−10.43		
47	60.7	60.0	- -	61.8	+ 2 18.61	+ 10.55	32 42 30.24	+26 11 9.01	- - -		
48	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
49	- -	- -	61.8	61.0	- - -	- - -	- - - -	- - - -	- - -		
50	57.2	48.2	58.0	- -	+ 54.97	− 25.53	356 20 29.14	62 33 10.11	+27.02		50. Micrometer assumed as 29.877, instead of 30.877.
51	56.3	47.8	54.0	- -	+ 35.24	+ 18.58	37 40 53.97	+21 12 45.28	- - -		
52	66.3	73.0	69.0	- -	+ 54.62	+ 23.01	42 41 18.26	+16 12 20.99	− 9.94		
53	69.0	73.3	71.0	69.0	+ 24.15	+ 59.47	67 16 24.65	− 8 22 45.40	+ 0.23		
54	69.9	72.9	71.0	- -	− 7.55	+ 10.12	30 25 2.47	+28 28 36.78	− 5.27		
55	70.4	73.2	72.0	- -	+ 1 3.72	+ 46.40	60 11 49.57	− 1 18 10.32	+ 2.60		
56	70.9	73.8	73.0	70.0	+ 10.13	+ 9.81	32 25 18.86	+26 28 20.39	- - -		
57	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		57, 58. Clear sky, with bright moonlight. Stars steady and well defined. Chronometer clock out of order.
58	- -	- -	71.3	70.0	- - -	- - -	- - -	- - - -	- - -		
59	73.5	70.2	- -	70.0	+ 50.37	− 24.26	356 20 26.51	+62 33 12.74	+26.35		
60	71.8	66.9	69.3	- -	+ 5 9.10	+ 15.57	35 40 24.27	+23 13 14.98	- - -		
61	70.2	68.8	69.2	- -	− 1 22.63	+ 44.52	58 44 22.12	+ 0 9 17.13	+45.38		61. Magnitude 9.10.
62	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		62. Clear sky. No moon. Stars steady and fair. Chronometer went well.
63	62.3	52.0	- -	62.0	− 41.97	+ 25.55	43 29 42.31	+15 23 56.94	+41.39		
64	61.2	57.0	59.8	- -	+ 3 54.66	+ 14.91	34 14 9.40	+24 39 29.85	- - -		
65	59.3	48.1	56.0	- -	− 2 40.61	+ 26.31	43 57 45.55	+14 55 53.70	- -		65. R. A. $11^{h}.45$.
66	70.0	75.3	72.0	- -	+ 2 26.41	+ 9.88	32 17 34.57	+26 36 4.68	- - -		
67	70.9	75.6	73.0	72.0	− 1 29.48	+ 1 21.12	75 24 50.06	−16 31 10.81	+20.83		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
May 6	1	ε Canis Majoris	- -	87 39 60.1	57.5	60.3	55.6	62.4	56.3	58.70	32.5450	- - -	30.390
	2	α^2 Geminorum	- -	26 39 60.2	54.5	59.6	52.9	60.4	54.3	56.98	29.7160	- - -	30.385
	3	α Canis Majoris	- -	53 14 60.8	55.5	61.4	55.0	63.9	58.5	59.18	28.7040	- - -	30.381
	4	Nadir	- -	199 59 60 4	56.4	62.6	53.8	63.9	58.1	59.20	30.7250	30.7365	- -
	5	Nadir	- -	60.5	56.6	62.5	54.0	64.2	58.4	59.37	- - -	- - -	- -
7	6	α Tauri	- -	42 39 61.0	58.8	63.0	60.9	64.7	56.4	60.80	29.8720	- - -	30.228
	7	β Orionis	- -	67 14 61.3	56.5	62.7	57.4	64.7	58.9	60.25	30.3970	- - -	30.228
	8	α Orionis	- -	51 29 60.0	55.9	60.6	58.1	64.5	56.9	59.33	30.0880	- - -	30.201
	9	Venus	- -	32 14 60.2	56.9	61.3	54.8	64.9	58.4	59.42	28.5940	- - -	30.202
	10	Nadir	- -	199 59 60.0	55.9	62.8	61.3	61.5	60.1	60.27	30.7430	30.7379	- -
	11	Nadir	- -	60.2	55.9	63.1	61.5	61.6	60.2	60.42	- - -	- - -	- -
10	12	β Leonis	- -	43 29 60.0	56 8	62.1	58.5	60.3	58.5	59.37	31.3550	- - -	30.051
	13	Anonymous	- -	34 59 60.6	56.9	62.5	59.0	60.7	60.0	59.95	28.8530	- - -	30.050
	14	Anonymous	- -	43 59 59.9	56.8	60.8	58.4	61.9	58.9	- -	15.4320	- - -	30.048
	15	Anonymous	- -	- - -	- -	- -	- -	- -	- -	- -	35.5630	- - -	30.052
	16	Anonymous	-	- - -	- -	- -	- -	- -	-	- -	28.2846	- - -	- -
	17	Anonymous	- -	46 29 59.5	57.1	62.1	57.1	60.2	59.0	59.17	15.3250	- -	- -
19	18	Sun, S.	- -	39 15 16.5	7.0	18.2	12.2	14.3	11.5	13.28	31.1410	- - -	29.982
	19	Nadir	-	199 59 61.7	52.4	63.9	58.5	57.8	56.5	58.47	30.6590	30.6827	- -
	20	Nadir	- -	199 59 61.1	49.5	62.2	56.5	57.1	55.9	57.05	30.6280	- - -	- -
	21	Venus, S.	- -	33 4 59.8	51.6	60.0	56.6	58.3	54.3	56.93	31.0627	- - -	29.874
	22	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.4955	- - -	- -
20	23	Sun, N.	- -	38 29 66.4	59.0	69.0	64.7	67.0	62.0	64.68	30.2110	- - -	30.092
	24	Nadir	- -	199 59 65.9	56.8	67.8	64.0	61.8	61.3	62.93	30 7270	30.6806	-
	25	Venus, N.	- -	33 9 64.1	57.8	65.1	63.0	63.6	60.1	62.28	29.4654	- - -	30.102
	26	Venus, S.	- -	- -	-	- -	- -	- -	- -	- -	29.0285	- - -	-
	27	72 Leonis	- -	34 59 63.7	57.0	66.8	62.3	62.0	58.1	61.65	31 4230	- - -	30.160
	28	Nadir	-	199 59 63.8	54.1	65.5	62.4	59.7	58.7	60.70	30.6860	30.6747	- -
	29	93 Leonis	- -	37 49 64.1	56.4	66.2	62.4	62.3	59.2	61.77	29.9240	- - -	30.176
	30	65 Ursæ Majoris	- -	11 34 61.5	53.5	64.0	61.0	59.2	55.6	59.14	30.1070	- - -	-
	31	B.A.C. (4028)	- -	- - - -	-	- -	- -	-	- -	- -	29.7010	- - -	- -
	32	2 Comæ Berenicis	- -	36 34 60.9	52.8	62.7	58.8	59.4	55.0	58.27	29.4450	- - -	30.186
	33	2 Canis Venat.	- -	17 24 61.0	51.6	62.8	58.7	57.3	55.5	57.82	31.1430	- - -	-
	34	8 Comæ Berenicis	- -	34 59 60.8	53.7	63 6	58.6	58.4	55.2	58.38	28.8450	- - -	- -
	35	6 Canis Venat.	- -	18 59 62.4	53.2	65.2	60.7	60.0	55.2	59.45	27.7070	- - -	- -
	36	20 Comæ Berenicis	-	57 9 62.5	53.9	64.4	60.7	60.2	56.7	59.73	30.3700	- - -	- -
	37	9 Canis Venat.	- -	17 9 63.9	54.7	66.5	62.1	60.5	57.1	60.80	28.6200	- - -	30.204
	38	Mercury	- -	48 19 62 3	53.8	63.9	61.4	61.5	57.7	60.10	30.3310	- - -	30.361
	39	Nadir	- -	199 59 63.8	54.8	65.1	61.9	60.3	58.9	60.80	30.6850	30.6721	- -
21	40	Sun, S.	- -	38 49 62.0	54.0	64.7	60.3	61.2	57.0	59.87	30.5680	- - -	- -
	41	Sun, N.	- -	38 20 10.1	2.0	13.0	8.5	9.7	5.5	8.13	32.3130	- - -	30.330
	42	Nadir	- -	199 59 63.6	54.1	65.6	61.2	60.9	59.0	60.73	30.6920	30.6802	- -
	43	Venus, S.	- -	33 19 63.3	55.7	64.8	61.3	62.9	58.7	61.12	31.2562	- - -	30.252
	44	Venus, N.	- -	- - - -	-	-	- -	- -	- -	-	31.6775	- - -	- -
22	45	Sun, N.	- -	38 4 63.5	55.1	65.6	62.8	63.3	59.0	61.55	28.0322	- - -	- -
	46	Sun, S.	- -	38 39 65.2	57.1	67.9	63.5	64.7	61.1	63.25	32.3752	- - -	30.206
	47	Nadir	- -	199 59 59.9	48 5	61.3	57.2	56.3	55.7	57.78	30.6300	30.6644	-
	48	Venus, N.	- -	33 24 62.6	57.2	64.2	61.4	64.6	59.8	61.63	28.7269	- - -	30.149
	49	Venus, S.	- -	- - - -	- -	-	- -	-	-	- -	28.2900	- - -	- -
	50	B.A.C. 3973	- -	16 19 62.6	55.0	64.4	56.6	62 9	56.2	59.62	29.8210	- - -	30.116
	51	Nadir	- -	199 59 60.5	48.7	59.9	56.8	57 2	55.8	57.02	30.6430	30.6896	- -
	52	2 Comæ Berenicis	- -	36 34 59.2	50.1	59.6	56.8	59.9	54.2	56.63	29.4050	- - -	30.106
	53	20 Comæ Berenicis	- -	37 9 62.1	53.0	62.1	58.6	62.2	57.0	59.17	30.3630	- - -	30.112
24	54	Sun, S.	- -	38 14 62.2	52.6	63.1	58.2	62.3	59.2	59.60	29.9322	- - -	29.958
	55	Sun, N.	- -	37 44 60.1	51.0	61.1	55.2	60.5	56.5	57.40	31.4678	- - -	- -
	56	Nadir	- -	199 59 63.0	52.0	64.0	56.0	61.0	60.2	59.37	30.6710	30.6804	- -
	57	72 Leonis	- -	34 59 67.0	58.2	66.9	60.7	65.9	62.6	63.55	31.4550	- - -	29.928
	58	Nadir	- -	199 59 63.9	62.4	64.8	57.1	61.5	60.1	61.63	30.6910	30.6648	- -
	59	93 Leonis	- -	37 49 64.0	55.6	64.8	58.0	64.7	60.0	61.18	29.9120	- - -	- -
	60	B.A C. 4014	- -	42 34 62.0	52.9	62.0	55.8	62.8	57.5	58.83	28.2640	- - -	-
	61	65 Ursæ Majoris	- -	11 34 69.1	60.5	71.1	63.6	69.2	65.3	66.48	30.2300	- - -	- -
	62	B.A.C. 4028	- -	- - - -	- -	- -	- -	- -	- -	- -	29.8210	- - -	- -
25	63	Sun, N.	-	37 34 62.8	52.3	62.6	57.0	61.0	58.4	58.17	32.1624	- - -	- -
	64	Sun, S.	- -	38 4 64.0	53.9	65.1	58.5	64.4	61.4	61.22	30.6484	- - -	30.000
	65	Nadir	-	199 59 65.0	53.0	65.9	57.9	62.4	61.2	60.90	30.6850	30.6704	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	71.3	74.1	73.0	- -	− 1 50.45	+ 2 15.78	87 40 21.03	−28 46 41.78	+23.30	C.F.	
2	72.0	75.3	72.0	- -	+ 1 4.08	+ 1 5.77	26 42 6.83	+32 11 32.42	+11.72		
3	74.0	75.2	72.0	- -	+ 2 7.64	+ 36.83	53 17 43.65	+ 5 35 55.60	+23.42		
4	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		4. Sunlight observations of this date were tremulous.
5	- -	- -	74.0	75.0	- - -	- - -	- - - -	- - - -	- - -		
6	69.7	80.7	74.0	- -	+ 54.32	+ 23.11	42 41 18.23	+16 12 21.02	−10.06		
7	72.1	81.0	75.0	- -	+ 21.58	+ 59.72	67 16 21.55	− 8 22 42.30	− 0.58		
8	73.9	80.2	- -	- -	+ 40.87	+ 33.88	51 31 14.08	+ 7 22 25.17	+ 3.36		
9	74.1	80.0	75.0	75.0	+ 2 14.73	+ 9.67	32 17 23.82	+26 36 15.43	- - -		10, 11. The observations of this date were taken at midday. Stars dim, in a hazy atmosphere. Could not get a Nadir during sunlight.
10	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
11	- -	- -	71.0	69.0	- - -	- - -	- - - -	- - - -	- - -		
12	71.8	66.8	70.0	71.0	− 38.57	+ 24.51	43 29 45.31	+15 23 53.94	+40.77		
13	70.9	64.9	- -	-	+ 1 58.32	+ 15.21	35 2 13.48	+23 51 25.77	+ 6.96		h. m.
14	70.4	64.7	- -	- -	+16 1.03	+ 26.15	44 16 26.63	+15 37 12.62	+30.66		13. R. A. 12 11
15	68.4	62.7	68.0	69.0	− 5 3.13	+ 25.77	43 55 22.09	+15 58 17.16	+30.52		14. R. A. 12 31
16	- -	- -	- -	- -	+ 2 33.90	+ 25.90	44 2 59.25	+15 50 40.00	+29.70		15. R. A. 12 34
17	- -	- -	- -	- -	+16 7.75	+ 28.88	46 46 35.80	+13 7 3.45	+30.12		16. R. A. 13 6
											17. R. A. 13 7
18	66.0	73.0	- -	- -	− 28.69	−15 32.43	38 59 12.16	+19 54 27.09	- - -		
19	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	H.	
20	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
21	68.2	71.8	- -	- -	− 24.37	+ 10.13	33 4 42.69	+25 49 10.18	- - -		
22	- -	- -	- -	- -	− 51.45	+ 9.97	33 4 15.45				
23	62.5	59.2	- -	- -	+ 29.62	+16 5 52	38 46 39.82	+20 6 59.43	- - -		
24	- -	- -	- -	- -	- -	- -	- - - -	- - - -	- - -		
25	65.0	63.5	- -	- -	+ 1 16.48	+ 10.27	33 11 29.03	+25 41 56.49	- - -		
26	- -	- -	- -	- -	+ 1 43.77	+ 10.45	33 11 56.50				
27	62.0	58.7	- -	- -	− 46.45	+ 15.41	34 59 30.61	+23 54 8.64	+35.77		
28	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
29	62.0	56.5	- -	- -	+ 47.09	+ 18.62	37 51 7.48	+21 2 31.77	+37.76		
30	- -	- -	-	- -	+ 35.72	− 8.57	11 35 26.29	+47 18 12.96	+30.00		
31	- -	- -	- -	- -	+ 1 01.15	− 8.56	11 35 51.73	+47 17 47.52	+30.02		
32	61.8	55.3	- -	- -	+ 1 17.39	+ 17.29	36 36 32.95	+22 17 6.30	+37.59		
33	- -	- -	- -	- -	− 29.32	− 2.63	17 24 25.87	+41 29 13.38	+32.08		
34	- -	54.6	- -	- -	+ 1 54.84	+ 15.59	35 2 8.81	+23 51 30.44	+37.17		
35	- -	- -	- -	- -	+ 3 6.38	− 0.96	19 3 4.87	+39 50 34.38	+32.61		
36	- -	54.7	- -	- -	+ 19.31	+ 17.94	37 10 36.98	+21 43 2.27	+37.79		36. Cirele Reading assumed as 37° instead of 57°.
37	61.5	54.1	- -	- -	+ 2 9.12	− 2.84	17 12 7.08	+41 41 32.17	+32.17		
38	62.4	61.7	- -	- -	+ 21.60	+ 29.96	48 20 51.66	+10 32 47.59	- - -		
39	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
40	- -	65.0	- -	- -	+ 6 64	+ 16.80	38 50 23.31	- - -	- - -		
41	63.8	64.9	- -	- -	− 1 42.87	+ 16.31	38 18 41.57	+20 19 6.81	- -		
42	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
43	66.4	68.3	- -	- -	− 36.02	+ 10.55	33 19 35.65	+25 34 16.99	- - -		
44	- -	- -	- -	- -	− 1 2.59	+ 10.34	33 19 8.87				
45	- -	- -	- -	- -	+ 2 45.33	+ 15.68	38 8 2.56	+20 30 21.90	- - -		
46	64.8	75.4	- -	- -	− 1 47.26	+ 16.16	38 38 32.15	- - - -	- - -		
47	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
48	66.5	74.7	- -	- -	+ 2 1.67	+ 10 22	33 27 13.52	+25 26 11.80	- - -		
49	- -	- -	- -	- -	+ 2 29.31	+ 10.45	33 27 41.39				
50	68.0	70.3	- -	- -	+ 52.91	− 3.59	16 20 48.94	+42 32 50.31	+30.72		
51	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
52	68.2	69.1	- -	- -	+ 1 20.85	+ 16.79	36 36 34 27	+22 17 4.98	+37.36		
53	68.2	68.9	- -	- -	+ 20.69	+ 17.41	37 10 37.27	+21 43 1.98	+37.55		53. Hazy evening. Stars beautifully steady.
54	74.3	76.4	- -	- -	+ 47.51	+ 15.60	38 16 2.76	- - - -	- - -		
55	- -	77.2	- -	- -	− 48.69	+ 15.09	37 44 23.80	+20 53 26.00	- - -		
56	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
57	72.0	72.9	- -	- -	− 49.45	+ 14.87	34 59 28 97	+23 54 10.28	+35.45		57. Observed before sunset.
58	- -	- -	- -	- -	- -	- -	- - -	- - - -	- - -		
59	- -	- -	- -	- -	+ 47.22	+ 17.88	37 51 6.28	+21 2 32.97	+37.38		59, 60, 61. Barometer and Thermometers assumed as for No. 57.
60	- -	- -	- -	- -	+ 2 30.93	+ 23.15	42 37 52.91	+16 15 46.34	+39.01		
61	- -	- -	- -	- -	+ 27.44	− 8.21	11 35 25.71	+47 18 13.54	+29.49		
62	- -	- -	- -	- -	+ 52.93	− 8.21	11 35 51.20	+47 17 48.05	+29.51		
63	- -	- -	- -	- -	− 1 33.60	+ 14.86	37 33 39.43	+21 4 10.54	- - -		
64	75.4	80.0	- -	- -	+ 1.43	+ 15.31	38 5 17.99				
65	- -	- -	- -	- -	- - -	- - -	- - - -	- - -	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
May 25	1	Venus, N.	-	33 54 65.0	55.4	65.1	59.3	64.7	61.0	61.75	31.6603	- - -	29.956
	2	Venus, S.	-	- - -	- -	- -	-	- -	- -	- -	31.2435	- - -	- -
	3	Nadir	-	199 59 64.0	49.2	61.1	53.9	58.5	58.4	57.52	30.6440	30.6827	- -
	4	* 4014	-	42 34 65.5	54.1	63.8	56.9	64.6	60.2	60.85	28.2970	- - -	29.936
26	5	Sun, N.	-	37 24 61.6	50.8	61.1	54.9	60.0	55.5	57.32	32.4550	- - -	29.976
	6	Nadir	-	199 59 63.7	51.1	63.1	56.5	59.2	59.1	58.78	30.6600	30.6788	- -
	7	Venus, S.	-	34 4 66.4	56.1	65.3	60.0	64.2	63.1	62.52	31.4757	- - -	29.925
	8	Venus, N.	-	- - - -	- -	- -	- -	- -	- -	- -	31.8865	- - -	- -
28	9	Sun, N.	-	37 4 64.3	54.5	64.8	60.6	63.0	60.7	61.32	32.1255	- - -	29.918
	10	Nadir	-	199 59 64.5	53.6	65.1	61.0	61.4	61.0	61.10	30.6930	30.6753	- -
31	11	Sun, N.	-	36 34 62.8	55.0	65.1	60.4	61.5	56.6	60.23	29.8960	- - -	30.058
	12	Nadir	-	199 59 66.1	56.2	59.0	62.6	62.1	61.7	61.28	30.6900	30.6694	- -
June 1	13	Sun, S.	-	36 59 61.8	51.3	62.9	56.0	60.5	55.4	57.98	30.3332	- - -	29.964
	14	Sun, N.	-	36 29 59.5	49.7	60.1	54.0	58.6	54.6	56.08	31.8212	- - -	- -
	15	Nadir	-	199 59 63.0	51.4	63.6	51.8	59.5	59.0	59.05	30.6550	30.6694	- -
	16	Venus, N.	-	35 9 63.3	52.4	63.1	57.9	60.9	57.0	59.10	30.9763	- - -	29.911
	17	Venus, S.	-	- - - -	- -	- -	- -	-	- -	- -	30.5035	- - -	29.928
	18	Mercury, N.	-	44 24 60.2	50.4	60.5	54.8	58.2	55.0	56.52	29.7770	- - -	- -
	19	Nadir	-	199 59 63.0	69.4	63.1	56.6	58.1	58.5	61.45	30.6370	30.6130	- -
2	20	Sun, N.	-	36 19 62.2	50.6	61.6	56.0	60.4	57.0	57.97	29.6786	- - -	- -
	21	Sun, S.	-	36 49 57.7	46.8	57.1	57.2	56.3	57.5	55.43	28.1232	- - -	29.932
3	22	Sun, N.	-	36 14 64.8	57.5	63.3	56.2	62.1	59.2	60.52	31.9204	30.6795	- -
	23	Sun, S.	-	36 44 68.2	55.2	67.2	59.2	66.4	62.7	63.15	30.4818	- - -	- -
	24	Nadir	-	199 59 66.9	50.5	65.3	56.9	60.9	62.6	60.52	30.6880	30.6795	- -
	25	Venus, S.	-	35 34 63.0	48.0	59.9	57 2	58.9	62.3	58.22	31.0438	- - -	29.718
	26	Venus, N.	-	- - - -	- -	- -	- -	- -	- -	- -	31.5489	- - -	- -
4	27	Mercury, N.	-	42 59 62.0	52.3	63.5	58.3	59.0	56.2	58.55	29.7448	- - -	30.086
	28	Mercury, S.	-	- - - -	- -	-	- -	- -	-	- -	29.6437	- - -	- -
5	29	Sun, S.	-	36 29 60.4	51.1	62.1	57.8	58.1	54.3	57.30	28.9470	- - -	- -
	30	Sun, N.	-	35 59 64.8	54.2	67.0	61.9	61.8	58.8	61.42	30.5240	- - -	30.086
	31	Nadir	-	199 59 61.0	50.0	63.1	58.4	56.0	57.0	57.58	30.5960	30.6331	- -
	32	Venus, N.	-	35 59 58.8	49.2	61.2	57.2	56.2	52.9	55.92	31.1408	- - -	30.048
	33	Venus, S.	-	- -	-	- -	-	- -	- -	- -	30.6134	- - -	- -
	34	α Ursæ Majoris	-	356 19 57.9	51.4	62.3	56.9	55.5	52.2	56.03	29.7610	- - -	30.045
	35	Nadir	-	199 59 60.0	51.2	62.9	59.3	56.6	56.3	57.72	30.6250	30.6596	- -
	36	Nadir	-	60.0	51.2	63.2	59.2	56.8	56.4	57.80	- - -	- - -	- -
	37	γ Ursæ Majoris	-	4 19 59.8	50.3	61.8	56.8	56.0	54.6	56.56	28.0950	- - -	30.049
	38	B.A.C. 4711	-	84 49 59.2	51.2	62.8	60.5	56.6	55.4	57.62	33.8220	- - -	30.029
	39	α^2 Libræ	-	74 29 60.9	54.6	64.9	61.6	59.4	56.8	59.70	47.3190	- - -	30.025
	40	Jupiter, S.	-	74 4 60.4	55.5	65.2	63.3	60.4	55.0	59.97	29.1680	- - -	30.028
6	41	51 Hydræ	-	85 54 60.5	53.7	64.3	59.4	60.8	56.0	59.12	29.6530	- -	29.912
	42	α^2 Libræ	-	74 14 60.8	53.2	64.3	60.0	60.2	55.9	59 07	27.9090	- - -	29.910
	43	Jupiter, S.	-	74 4 60.3	52.6	63.2	59.7	58.6	55.4	58.30	30.5220	- - -	29.911
	44	Nadir	-	199 59 62.8	53.5	64.4	59.9	59.3	58.2	59.68	30.6430	30.6472	- -
7	45	Sun, N.	-	35 49 62.0	51.4	63.5	52.1	61.2	56.1	57.72	32.2440	- - -	- -
	46	Sun, S.	-	36 19 60.5	49.4	62.4	49.3	59.4	54.1	55.85	30.7962	30.6677	29.866
	47	Nadir	-	199 59 64.8	55.2	67.3	55.1	62.9	61.1	61.07	30.6850	- - -	- -
	48	Venus, S.	-	36 29 65.3	56.6	67.5	54.3	66.0	59.9	61.60	34.4137	- - -	29.820
	49	Venus, N.	-	- - - -	- -	-	- -	- -	- -	- -	34.8874	- - -	- -
8	50	Mercury, S.	-	40 59 60.1	51.9	62.2	51.1	61.4	51.7	59.90	30.1681	- - -	29.804
	51	Mercury, N.	-	- - - -	- -	- -	- -	- -	- -	- -	30.2594	- - -	- -
	52	Nadir	-	199 59 63.0	52.8	65.9	51.9	61.2	59.4	60.03	30.6660	30.6648	- -
9	53	Sun, N.	-	35 39 63.0	53.1	63.8	51.2	62.5	51.6	59.54	32.6766	- - -	- -
	54	Sun, S.	-	36 9 63.5	53.1	65.2	51.8	63.8	57.9	60.22	31.1640	- - -	29.814
	55	Venus, N.	-	36 54 63.6	53.2	64.0	57.8	65.0	58.5	60.35	33.0895	- - -	29.818
	56	Venus, S.	-	- -	- -	- -	-	- -	-	- -	32.5624	- - -	- -
	57	Nadir	-	199 59 60.5	53.9	64.1	57.8	60.7	59.9	59.48	30.6990	30.7072	- -
	58	51 Hydræ	-	85 54 60.0	52.7	62.4	55.8	61.2	56.9	58.17	29.6580	- - -	29.841
	59	α^2 Libræ	-	74 19 59.9	52.8	64.0	56.9	61.4	57.2	58.70	32.7080	30.7072	29.828
	60	α^1 Libræ	-	- - -	- -	-	- -	-	- -	- -	35.3010	- - -	- -
	61	Jupiter, S.	-	73 59 60.0	53.2	64.3	57.7	61.5	56 9	58.93	29.6360	- - -	29.829
	62	Jupiter, N.	-	- - - -	-	- -	- -	- -	- -	- -	30.3295	- - -	- -

Number.	Thermometers. At.	Ex.	Up.	Low.	Corrections for Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	Remarks.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	78.0	83.5	- -	- -	− 1 2.12	+ 10.13	33 54 9.76	+24 59 16.25	- - -	H.	
2	- -	- -	- -	- -	− 35.84	+ 10.33	33 54 36.24				
3	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
4	76.3	76.0	- -	- -	+ 2 30.00	+ 23.01	42 37 53.86	+16 15 45.39	+38.93		
5	75.5	78.9	- -	- -	− 1 51.38	+16 2.66	37 39 8.60	+21 14 30.65	- - -		5. Observed through clouds.
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
7	77.4	78.8	- -	-	− 49.88	+ 10.52	34 4 23.16	+24 49 29.20	- - -		7, 8. Observed through clouds.
8	- -	- -	- -	- -	− 1 15.90	+ 10.33	34 3 56.95				
9	73.7	79.4	- -	-	− 1 30.99	+16 2.06	37 19 32.39	+21 34 6.86	-		9. Observed through thick clouds, but observation satisfactory.
10	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
11	68.7	72.2	- -	- -	+ 48.51	+16 1.53	36 51 50.27	+22 1 48.98	- - -		11. Observed through haze.
12	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
13	71.9	- -	- -	- -	+ 21.29	+ 14.60	37 0 33.87	+22 7 55.14	- - -		13. Very tremulous, observation unsatisfactory. Thermometer had been exposed to the sun.
14	- -	- -	- -	- -	− 1 12.39	+ 14.12	36 30 54.35				
15	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
16	76.2	79.1	- -	- -	− 19.30	+ 10.82	35 9 50.62	+23 43 33.62	- - -		16. Slight haze.
17	73.5	79.7	- -	- -	+ 10.56	+ 10.98	35 10 20.64				
18	- -	- -	- -	- -	+ 56.00	+ 24.55	44 26 17.07	+14 27 22.18	- - -		18. Very faint, observed through haze.
19	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		19. The value adopted is Mic. zero = 30.6660.
20	- -	- -	- -	- -	+ 1 2.03	+ 13.61	36 21 13.61	+22 16 37.81	- - -		
21	77.4	84.0	- -	- -	+ 2 39.77	+ 14.08	36 52 49.28				
22	- -	- -	- -	- -	− 1 17.98	+ 13.17	36 13 55.71	+22 23 56.73	- - -		22. Barometer and Thermometers not registered; assumed as for Venus seq.
23	- -	- -	- -	- -	+ 12.57	+ 13.61	36 45 29.33				
24	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
25	84.6	91.3	-	- -	− 22.85	+ 10.74	35 34 46.11	+23 19 9.05	- - -		
26	- -	- -	- -	- -	− 54.48	+ 10.56	35 34 14.30				
27	68.0	61.3	- -	- -	+ 55.77	+ 20.90	43 1 15.22	+15 52 20.71	- - -		
28	-	- -	- -	- -	+ 1 2.19	+ 21.12	43 1 21.86				
29	- -	- -	- -	- -	+ 1 46.08	+ 14.50	36 31 57.88	+22 37 28.99	- - -		
30	68.2	63.2	- -	- -	+ 7.22	+ 14.01	36 0 22.65				
31	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
32	68.0	67.0	- -	- -	− 31.80	+ 12.02	35 59 36.14	+22 53 47.77	- -		
33	-	- -	- -	- -	− 1.32	+ 12.22	36 0 6.82				
34	68.7	56.3	69.0	71.0	+ 56.40	− 25.21	356 20 27.22	+62 33 12.03	+23.68		
35	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		35, 36. Fine night, no moon, stars steady.
36	- -	- -	70.0	71.5	- - -	- - -	- - - -	- - - -	- - -		
37	68.9	54.5	69.0	- -	+ 2 50.13	− 16.17	4 22 30.52	+54 31 8.73	+26.65		37. Micrometer assumed as 27.95 instead of 28.95.
38	64.0	54.9	65.0	- -	− 3 18.66	+ 2 1.88	84 48 40.84	−25 55 1.59	+40.79		
39	62.2	53.8	- -	- -	−12 11.97	+ 1 20.03	74 19 7.76	−15 25 28.51	+35.55		39. Micrometer assumed to be 42.319 instead of 47.319.
40	61.4	53.8	- -	66.0	+ 1 33.57	+ 57.63	74 7 31.17	−15 13 51.92	- - -		
41	69.1	65.9	68.0	69.0	+ 1 2.49	+ 2 5.22	85 58 6.83	−27 4 27.58	+41.79		
42	69.1	66.4	69.0	- -	+ 2 51.91	+ 1 18.04	74 19 9.02	−15 25 29.77	+35.55		
43	69.0	66.4	69.0	70.0	+ 7.99	+ 55.33	74 6 1.62	−15 12 22.37	- - -		43. Planet in a mist, blurred.
44	- -	- -	70.0	70.0	- - -	- - -	- - -	- - - -	- - -		
45	- -	- -	- -	- -	− 1 38.74	+ 13.33	35 48 32.31	+22 49 22.20	- - -		45. June 7 to June 29 $r = 62''.874$.
46	70.1	76.2	- -	- -	− 7.85	+ 13.80	36 20 1.80				
47	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
48	71.3	77.5	- -	- -	− 3 55.34	+ 11.63	36 26 17.89	+22 27 36.49	- - -		48, 49. Observed through clouds.
49	- -	- -	- -	- -	− 4 25.37	+ 11.40	36 25 47.63				
50	69.5	74.1	- -	- -	+ 31.34	+ 18.44	41 0 49.68	+17 52 52.47	- - -		
51	- -	- -	- -	- -	+ 25.64	+ 18.34	41 0 43.88				
52	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
53	- -	- -	- -	- -	− 2 3.43	+ 13.21	35 38 9.32	+22 59 41.77	- - -		
54	71.3	74.1	- -	- -	− 28.26	+ 13.68	36 9 45.64				
55	73.5	80.2	- -	-	− 2 29.73	+ 11.59	36 52 42.21	+22 0 40.30	- - -		55. First two observed through clouds, planet very steady and observation good.
56	- -	- -	- -	- -	− 1 56.53	+ 11.87	36 53 15.69				
57	- -	- -	72.0	72.0	- - -	- - -	- - - -	- - - -	- - -		
58	71.6	66.2	69.0	72.0	+ 1 6.01	+ 2 4.73	85 58 8.91	−27 4 29.66	+41.94		
59	70.8	67.8	69.0	- -	− 2 5.80	+ 1 17.60	74 19 10.50	−15 25 31.25	+35.55		
60	- -	- -	- -	- -	− 4 48.65	+ 1 17.48	74 16 27.53	−15 22 48.28	+35.52		
61	70.6	67.2	68.0	- -	+ 1 7.40	+ 1 15.37	74 2 21.70	−15 8 20.70	- - -		
62	- -	- -	- -	- -	+ 23.93	+ 1 15.34	74 1 38.20				

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
June 9	1	Mercury, N.	- -	40 29 65.3	56.7	67.3	62.1	65.1	62.9	63.23	30.9578	- - -	30.044
	2	Mercury, S.	-	- - - -	- -	- -	- -	- -	- -	- -	30.8510	- - -	- -
	3	Nadir	- -	199 59 64.0	53.5	66.0	60.7	61.6	60.4	61.03	30.6850	30.6684	- -
10	4	θ Centauri	-	94 29 60.5	54.5	63.8	59.2	61.2	57.1	59.38	31.8280	- - -	30.205
	5	51 Hydræ	- -	85 54 59.8	55.9	65.8	60.8	61.1	56.9	60.05	29.7560	- -	30.205
	6	α^1 Libræ	- -	74 19 60.4	54.4	65.6	60.3	61.1	56.7	59.75	35.3510	- - -	- -
	7	α^2 Libræ	-	- - - -	- -	- -	- -	- -	-	- -	32.7500	- - -	- -
	8	Jupiter, S.	- -	73 59 60.7	57.8	66.9	61.8	62.6	56.6	61.07	39.9302	- -	30.220
	9	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.5966	- - -	- -
	10	β Libræ	- -	67 44 60.7	57.0	67.2	61.4	62.0	58.0	61.05	32.9260	- - -	- -
	11	Nadir	- -	199 59 60.7	56.3	64.5	62.2	61.1	60.1	60.82	30.6630	30.6493	- -
	12	Sun, N.	- -	35 34 64.2	55.1	65.8	60.0	63.9	59.2	61.37	32.2576	- - -	-
	13	Sun, S.	- -	36 4 64.9	55.0	66.2	61.1	64.8	60.2	62.03	30.7434	- - -	30.040
	14	Nadir	- -	199 59 64.5	53.3	65.9	60.1	61.5	60.2	60.92	30.6770	30.6621	- -
	15	Venus, N.	- -	37 9 63.5	54.2	64.9	59.3	62.9	58.8	60.60	34.3740	- - -	30.094
	16	Venus, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	33.8194	- - -	- -
	17	Mercury, N.	- -	39 59 63.8	55.6	65.8	61.6	63.1	60.1	61.67	31.3711	- -	30.376
	18	Mercury, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.4210	- - -	- -
	19	Nadir	- -	199 59 64.0	53.6	66.0	60.5	60.9	59.8	60.80	30.6600	30.6466	- -
11	20	Sun, S.	- -	35 59 62.4	52.7	64.5	59.3	61.4	56.6	59.48	29.9390	- - -	- -
	21	Sun, N.	- -	35 29 60.4	50.1	62.0	57.1	58.7	55.3	57.27	31.3698	- - -	30.358
	22	Nadir	- -	199 59 64.8	53.5	66.0	59.8	60.8	60.1	60.83	30.6630	30.6491	- -
	23	Venus, S.	- -	37 19 64.3	53.3	65.2	59.3	63.4	38.3	60.63	30.2207	- - -	30.328
	24	Venus, N,	- -	- - - -	-	- -	- -	- -	-	- -	30.7750	- - -	- -
	25	Mercury, N.	- -	39 29 61.8	52.8	63.1	49.8	62.5	58.7	58.12	31.7603	- - -	30.392
	26	Mercury, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.6605	- - -	- -
	27	Nadir	- -	199 59 62.6	51.5	64.1	57.9	59.2	58.3	58.93	30.6320	30.6479	- -
	28	Nadir	- -	199 59 60.5	53.6	64.5	58.5	60.0	58.9	59.33	30.6320	30.6416	-
	29	α^1 Libræ	- -	74 19 60.2	54.4	65.2	59.9	61.6	58.7	59.97	35.3360	- - -	30.328
	30	α^2 Libræ	- -	- - - -	- -	- -	- -	- -	- -	- -	32.7540	- - -	- -
	31	Jupiter, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	32.0626	- - -	30.329
	32	Jupiter, N.	- -	73 59 59.1	52.0	63.8	58.3	58.2	55.0	57.73	32.7200	- - -	- -
	33	β Libræ	- -	67 44 59.9	54.2	64.8	58.3	60.7	58.6	59.42	32.8960	- - -	30.328
12	34	Nadir	- -	199 59 59.7	51.4	62.9	55.6	55.8	58.9	57.38	30.6540	30.6949	- -
	35	α^1 Libræ	- -	74 19 59.8	54.0	65.2	58.4	61.8	57.8	59.50	35.3080	- - -	30.349
	36	α^2 Libræ	- -	- - - -	- -	- -	- -	- -	- -	- -	32.7420	- - -	- -
	37	Jupiter, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	28.4366	- - -	30.352
	38	Jupiter, N.	- -	73 54 59.4	52.7	64.5	57.9	61.2	56.5	58.70	29.1240	- - -	- -
	39	Weisse XV, 265	- -	72 39 60.5	-	- -	- -	- -	- -	- -	29.1440	- - -	- -
	40	Weisse XV, 281	- -	72 39 60.5	55.3	66.5	59.2	64.1	58.8	60.73	31.4230	30.6949	30.353
	41	B.A.C. 5184	- -	74 29 60.2	54.2	65.5	58.2	63.4	58.3	59.97	36.7320	- - -	30.351
	42	Sun, N.	- -	35 24 59.8	50.9	61.6	55.1	60.4	55.2	57.17	30.1590	- - -	30.406
	43	Nadir	- -	199 59 62.1	49.1	63.9	55.1	58.2	58.3	57.78	30.6230	30.6571	- -
	44	Venus, N.	- -	37 34 62.5	53.6	63.8	58.3	64.0	58.2	60.07	31.8430	- - -	30.352
	45	Venus, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.2975	- - -	- -
13	46	Mercury, S.	- -	38 29 64.7	54.4	65.0	59.2	64.1	61.3	61.45	31.1183	- - -	30.390
	47	Mercury, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.2212	- - -	- -
	48	Nadir	- -	199 59 64.5	52.7	63.9	58.2	61.1	60.8	60.20	30.6660	30.6621	- -
14	49	Sun, S.	- -	35 44 63.8	52.8	63.3	58.0	62.2	59.3	59.90	25.1882	- - -	30.372
	50	Sun, N.	- -	35 19 63.1	52.9	63.3	57.8	62.5	59.4	59.83	31.4378	- - -	- -
	51	Nadir	- -	199 59 62.9	49.5	61.5	54.8	58.8	59.0	57.75	30.6260	30.6606	- -
	52	Venus, S.	- -	38 4 62.8	51.0	61.2	56.2	61.9	60.5	58.93	33.2661	- - -	30.332
	53	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	33.8391	- -	- -
	54	Nadir	- -	199 59 61.9	48.9	60.4	54.1	58.2	58.8	57.05	30.6220	30.6678	- -
	55	Mercury, N.	- -	37 59 62.2	51.8	61.0	56.2	62.6	59.3	58.85	29.9118	- - -	30.208
	56	Mercury, S.	- -	- - -	- -	- -	- -	- -	- -	- -	29.8096	- - -	- -
15	57	Mercury, S.	- -	37 34 63.0	49.4	60.2	51.7	62.8	59.6	57.78	32.4375	- -	30.142
	58	Mercury, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	32.5300	- -	- -
	59	Nadir	- -	199 59 64.0	47.9	62.3	51.4	61.0	61.7	58.05	30.6290	30.6590	- -
16	60	Sun, N.	- -	35 14 64.1	48.3	59.9	49.2	61.2	60.6	57.22	31.0248	- - -	- -
	61	Sun, S.	- -	35 44 64.8	50.5	62.8	53.8	63.8	62.1	59.63	29.5952	- - -	30.134
	62	Nadir	- -	199 59 63.2	47.2	60.9	50.2	60.0	61.3	57.13	30.6210	30.6655	- -
	63	Venus, N.	- -	- - - -	- -	- -	- -	- -		- -	30.8908	- - -	- -
	64	Venus, S.	- -	38 29 63.3	49.8	60.3	52.6	62.3	61.7	58.33	30.2907	- - -	30.098
	65	Nadir	- -	199 59 62.1	48.0	60.9	52.8	58.2	60.0	57.00	30.5940	30.6404	- -
	66	Mercury, N.	- -	37 9 62.9	49.2	59.7	52.7	59.5	58.4	57.07	34.0788	- - -	30.078
	67	Mercury, S.	- -	- - -	- -	- -	- -	- -	- -	- -	33.9844	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	69.6	65.4	- -	- -	— 18.23	+ 18.36	40 30 3.36	+18 23 32.50	-	H.	
2	- -	- -	- -	- -	— 11.54	+ 18.45	40 30 10.14				
3	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
4	64.4	58.9	65.0	- -	— 1 14.16	+ 3 24.28	94 32 9.50	—35 38 30.25	+46.04		
5	64.4	58.7	65.0	- -	+ 56.13	+ 2 8.25	85 58 4.43	—27 4 25.18	+41.97		
6	- -	- -	- -	67.0	— 4 55.39	+ 1 20.11	74 16 24.47	—15 22 45.22	+35.51		
7	- -	- -	- -	- -	— 2 12.10	+ 1 20.25	74 19 7.90	—15 25 28.65	+35.54		
8	64.3	57.4	- -	66.0	— 17.83	+ 1 17.83	74 1 1.07	—15 7 0.98	- - -	C.F.	8. Planet tremulous.
9	- -	- -	- -	- -	— 59.47	+ 1 17.80	74 0 19.40				
10	- -	- -	- -	- -	— 2 23.18	+ 1 3.46	67 43 41.33	— 8 50 2.08	+30.20		10. Clear sky, stars slightly unsteady. Mercury tremulous.
11	- -	- -	67.0	68.0	- - -	- - -	- - - -	- - - -	- - -		
12	- -	- -	- -	- -	— 1 39.88	+ 13.46	35 33 34.95	+23 4 16.22	- - -		11. Clear sky, stars slightly unsteady. Mercury tremulous.
13	69.3	67.2	- -	- -	— 4.86	+ 13.94	36 5 11.11				
14	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
15	70.3	68.9	- -	- -	— 3 53.20	+ 12.10	37 6 19.50	+21 47 2.29	- - -		
16	- -	- -	- -	-	— 3 18.57	+ 12.39	37 6 54.42				
17	67.5	67.7	- -	- -	— 45.37	+ 18.17	39 59 34.47	+18 54 6.39	- - -		
18	- -	- -	- -	- -	— 48.51	+ 18.09	39 59 31.25				
19	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
20	- -	- -	- -	- -	+ 44.44	+ 13.92	36 0 57.84	+23 8 27.62	- - -	H.	20. Observed through clouds, followed to edge of field.
21	68.8	71.3	- -	- -	— 45.29	+ 13.44	35 29 25.42				
22	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
23	70.3	71.2	- -	- -	+ 27.07	+ 12.60	37 20 40.30	+21 33 16.62	- - -		
24	- -	- -	- -	- -	— 7.95	+ 12.28	37 20 4.96				
25	68.2	73.6	- -	- -	— 1 9.97	+ 17.38	39 29 5.53	+19 24 30.51	- - -		25. Observed through haze, very faint.
26	- -	- -	-	- -	— 1 3.62	+ 17.46	39 29 11.96				
27	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
28	- -	- -	68.0	69.0	- - -	- - -	- - - -	- - - -	- - -		
29	68.1	59.9	66.0	- -	— 4 54.97	+ 1 19.99	74 16 24.99	—15 22 45.74	+35.50		
30	- -	- -	- -	- -	— 2 12.84	+ 1 20.12	74 19 7.25	—15 25 28.00	+35.54		
31	67.5	59.8	- -	- -	— 1 29.30	+ 1 17.66	73 59 46.10	—15 5 46.14	- - -		
32	- -	- -	-	- -	— 2 10.68	+ 1 17.64	73 59 4.69				
33	66.7	59.5	67.0	65.0	— 2 21.80	+ 1 3.41	67 43 41.03	— 8 50 1.78	+30.18		
34	- -	- -	72.0	71.0	- - -	- - -	- - - -	- - - -	- -		35. East Sidereal Clock fast of West Sidereal Clock 2m. 13s.
35	70.4	66.6	69.0	- -	— 4 49.86	+ 1 19.01	74 16 28.65	—15 22 49.40	+35.48	C.F.	
36	- -	- -	-	- -	— 2 8.72	+ 1 19.14	74 19 9.92	—15 25 30.67	+35.53		36. East Transit Clock fast of West Sidereal Clock 2m. 13s.
37	70.1	65.8	68.0	- -	+ 2 22.16	+ 1 16.75	73 58 37.61	—15 4 36.66	- - -		
38	- -	- -	- -	- -	+ 1 38.80	+ 1 16.72	73 57 54.22				
39	- -	- -	- -	- -	+ 1 28.22	+ 1 14.88	72 42 43.83	—13 49 4.58	+30.12		
40	69.8	65.1	- -	- -	— 45.60	+ 1 14.78	72 40 29.91	—13 46 50.66	+30.03		41. East Transit Clock fast of West Sidereal Clock 2m. 13s.
41	69.7	66.2	68.0	- -	— 6 19.57	+ 1 19.49	74 24 59.89	—15 31 20.64	+27.24		
42	69.3	74.5	- -	- -	+ 31.42	+15 59.20	35 41 27.79	23 12 11.46	- - -	H.	42. Had set the circle wrong.
43	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
44	71.0	77.2	- -	- -	— 1 14.62	+ 12.22	37 33 57.67	+21 19 24.14	- - -		
45	-	- -	- -	-	— 40.08	+ 12.57	37 34 32.56				
46	73.1	79.8	- -	- -	— 28.61	+ 16.33	38 29 49.17	+20 23 53.31	- - -		
47	- -	- -	- -	- -	— 35.01	+ 16.27	38 29 42.71				
48	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
49	73.3	76.2	- -	- -	+ 5 44.62	—15 32.13	35 35 12.39	+23 18 26.86	- - -		49. Micrometer reading probably 25.1882 instead of 29.1882.
50	- -	80.2	- -	- -	— 48.26	+15 58.72	35 35 10.29	+23 18 28.96	- - -		
51	- -	- -	- -	- -	- - -	- - -	- - - -	- - -	- -		
52	77.5	84.5	- -	-	— 2 43.65	+ 12.53	38 2 27.81	+20 51 29.76	- - -		
53	- -	- -	- -	- -	— 3 19.90	+ 12.14	38 1 51.17				
54	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
55	75.0	85.3	- -	- -	+ 47.47	+ 15.56	38 1 1.88	+20 52 34.13	- - -		
56	- -	- -	- -	- -	+ 53.90	+ 15.61	38 1 8.36				
57	86.0	91.3	- -	- -	— 1 51.64	+ 14.96	37 33 21.10	+21 20 21.10	- - -		57. Beautifully steady.
58	- -	- -	- -	- -	— 1 57.50	+ 14.92	37 33 15.20				
59	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
60	- -	- -	- -	- -	— 22.41	+ 12.50	35 14 47.31	+23 23 5.53	- - -		
61	87.8	92.4	- -	- -	+ 1 7.54	+ 12.96	35 46 20.13				
62	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
63	- -	- -	- -	- -	— 14.22	+ 11.85	38 29 55.96	+20 23 24.09	- - -		
64	89.2	93.0	- -	- -	+ 23.74	+ 12.30	38 30 34.37				
65	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		65. Micrometer reading evidently 30.594 instead of 30.394.
66	85.0	89.5	- -	- -	— 3 36.13	+ 14.19	37 6 35.13	+21 47 1.17	- - -		
67	- -	- -	-	- -	— 3 30.27	+ 14.23	37 6 41.03				

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
June 17	1	Sun, S.	- -	35 44 62.2	48.5	59.9	53.5	58.8	58.9	56.97	31.1524	- - -	- -
	2	Sun, N.	- -	35 9 64.0	49.9	61.0	54.5	60.1	61.0	58.42	27.8570	- - -	30.068
	3	Venus, S.	- -	38 44 62.9	48.9	59.3	53.1	62.0	61.1	57.88	31.2161	- - -	30.020
	4	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.7767	- - -	- -
	5	Nadir	- -	199 59 63.4	45.4	59.1	50.3	57.6	60.2	56.00	30.5930	30.6553	- -
	6	Nadir	- -	199 59 61.6	46.4	59.2	53.5	55.2	58.6	55.75	30.5600	30.6259	- -
18	7	Mercury, S.	- -	36 19 62.0	47.7	59.1	53.2	56.9	56.3	55.87	33.1089	- - -	29.916
	8	Mercury, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	33.2140	- - -	- -
19	9	Sun, N.	- -	35 9 60.9	46.6	58.7	52.3	54.9	55.3	54.78	29.8596	30.6259	- -
	10	Sun, S.	- -	35 39 60.4	46.2	57.8	52.1	56.0	55.3	54.73	28.4124	- - -	29.904
	11	Nadir	- -	199 59 62.9	46.0	60.1	53.8	55.9	59.0	56.27	30.5750	30.6327	- -
	12	Venus, N.	- -	39 14 62.1	47.6	59.1	53.4	58.3	58.9	56.57	33.7385	- - -	29.874
	13	Venus, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	33.1108	- - -	- -
21	14	Sun, S.	- -	35 39 60.4	52.3	63.5	57.3	59.8	59.7	58.83	28.9698	- - -	29.948
	15	Nadir	- -	199 59 57.9	47.4	60.0	53.7	56.5	55.8	55.22	30.6280	30.7030	- -
	16	Jupiter, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.7954	- - -	- -
	17	Jupiter, N.	- -	73 49 59.5	49.7	61.9	56.6	57.5	57.7	57.15	32.4598	- - -	29.863
	18	Nadir	- -	199 59 59.9	50.3	62.5	55.6	57.9	59.6	57.63	30.6470	30.6839	- -
	19	B.A.C. 5184	- -	74 29 60.2	51.2	61.7	55.5	58.4	57.9	57.48	35.4180	- -	29.870
	20	Anonymous	- -	76 24 59.5	50.7	62.1	54.4	58.3	57.3	57.05	34.7430	- - -	- -
	21	η Draconis	- -	356 59 60.6	51.3	62.8	57.5	59.3	59.2	58.45	27.8940	- - -	29.870
22	22	Sun, S.	- -	35 39 61.5	49.7	60.4	53.0	57.8	58.2	56.77	28.5608	- - -	29.781
23	23	Sun, N.	- -	35 9 64.1	52.5	62.1	59.1	58.9	59.6	59.38	29.3810	- - -	- -
	24	Sun, S.	- -	35 39 67.0	57.1	66.7	63.7	65.1	64.1	63.95	27.8988	30.6362	30.028
	25	Nadir	- -	199 59 63.9	54.5	65.0	61.2	59.9	62.3	61.13	30.6550	30.6362	- -
25	26	Mercury	- -	34 39 61.9	57.5	65.2	63.8	60.3	60.7	61.57	32.6780	- - -	30.028
	27	Sun, S.	- -	35 44 62.3	53.6	64.9	61.5	59.2	58.9	60.07	29.8754	- - -	- -
	28	Sun, N.	- -	35 14 60.5	54.4	63.4	59.4	61.0	59.1	59.63	31.4524	- - -	30.039
	29	Venus, N.	- -	40 29 60.5	54.8	62.3	60.2	59.4	61.1	59.72	27.0216	- - -	30.043
	30	Venus, S.	- -	- - - -	- -	-	- -	- -	- -	- -	26.7752	- -	- -
	31	Nadir	- -	199 59 60.7	53.2	64.9	59.5	57.9	59.3	58.92	30.6550	30.6715	- -
	32	α^2 Libræ	- -	74 19 62.0	53.8	64.2	59.8	60.4	57.9	59.68	32.7150	- - -	30.148
	33	Jupiter, S.	- -	73 44 61.8	54.7	64.8	61.7	59.3	59.1	60.23	29.4918	- - -	30.148
	34	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	-	- -	30.2160	- - -	- -
	35	Nadir	- -	199 59 63.8	57.2	64.9	63.6	61.8	63.1	62.40	30.6800	30.6415	- -
26	36	Sun, S.	- -	35 44 64.0	55.3	65.8	62.3	63.3	61.7	62.07	28.0364	- - -	- -
	37	Sun, N.	- -	35 13 63.5	55.2	64.1	60.8	61.7	61.2	61.08	28.5530	- - -	30.255
	38	Venus, S.	- -	40 44 60.9	52.8	62.7	58.3	59.2	60.3	59.03	28.9754	- - -	30.237
	39	Venus, N.	- -	- - - -	- -	- -	-	- -	-	-	29.7282	- - -	- -
	40	Nadir	- -	199 59 62.0	52.3	64.4	58.4	59.6	60.5	59.53	30.6779	30.6851	- -
	41	Mars, S.	- -	49 29 61.1	51.7	62.0	58.2	59.9	61.2	59.02	28.9174	- - -	30.195
	42	Mars, N.	- -	- - - -	- -	- -	- -	- -	- -	-	29.0568	- - -	- -
	43	α^2 Libræ	- -	74 19 62.1	54.2	63.3	58.9	58.7	58.2	59.23	32.7270	- - -	- -
	44	Jupiter, S.	- -	73 44 62.1	53.4	65.1	58.9	58.4	58.3	59.37	29.9818	- - -	30.195
	45	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	30.6378	- - -	- -
	46	Nadir	- -	199 59 62.4	54.8	64.8	61.6	61.3	61.4	61.05	30.6626	30.6452	- -
28	47	Lalande 28697	- -	75 19 59.8	53.1	62.6	58.3	62.7	59.7	59.37	29.4412	- - -	30.042
	48	Anonymous	- -	- - - -	- -	- -	- -	- -	- -	- -	45.3650	- - -	- -
	49	Nadir	- -	199 59 60.1	51.8	62.0	59.8	58.8	60.3	58.80	30.6511	30.6694	- -
29	50	Nadir	-	199 59 61.0	50.4	60.5	58.8	55.8	58.3	57.47	30.6191	30.6582	-
	51	α^1 Libræ	- -	74 19 60.9	50.2	60.9	58.0	57.5	55.6	57.19	35.2537	- - -	29.945
	52	α^2 Libræ	- -	- - - -	- -	- -	- -	- -	- -	- -	32.6672	- - -	-
	53	Jupiter, S.	- -	73 44 61.2	52.2	63.2	58.9	58.8	56.9	58.53	31.0774	- - -	29.945
	54	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.7272	- - -	- -
July 1	55	Venus, S.	- -	41 44 63.0	52.8	61.7	56.7	61.8	61.9	59.65	27.9916	- - -	29.878
	56	Venus, N.	- -	- - - -	-	- -	- -	- -	- -	- -	28.7668	- - -	- -
	57	Nadir	- -	199 59 62.8	49.9	60.3	55.5	58.8	60.6	57.98	30.6268	30.6578	- -
	58	Venus, S.	- -	41 59 62.8	54.9	63.8	58.9	62.4	61.2	60.67	31.5628	- - -	29.929
	59	Venus, N.	-	- - - -	- -	- -	- -	- -	- -	- -	32.3198	- - -	- -
2	60	Nadir	- -	199 59 61.4	50.8	60.7	56.1	56.9	58.9	57.47	30.6097	30.6487	- -
	61	Jupiter, S.	- -	73 44 64.9	54.7	66.4	61.9	59.8	61.2	61.48	31.7724	- - -	- -
	62	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	32.4518	- - -	- -
	63	β Libræ	- -	67 44 61.2	51.7	62.0	57.4	58.2	59.2	58.28	32.8306	- - -	29.989

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	-	- -	- -	− 31.80	+ 12.96	35 44 38.13	+23 24 47.10	- - -	H.	
2	86.8	90.3	- -	- -	+ 2 55.25	+ 12.50	35 13 6.17				
3	89.2	94.5	- -	- -	− 35.13	+ 12.25	38 44 35.00	+20 9 22.19	- - -		
4	- -	- -	- -	-	− 1 10.55	+ 11.79	38 43 59.12				
5	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
6	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
7	81.2	84.8	- -	- -	− 2 36.05	+ 13.95	36 17 33.77	+22 36 8.76	- - -		
8	- -	- -	- -	-	− 2 42.59	+ 13.93	36 17 27.21				
9	- -	- -	- -	- -	+ 48.14	+ 12.50	35 10 55.42	+23 26 58.01	- - -		
10	82.0	86.4	- -	- -	+ 2 19.37	+ 12.96	35 42 27.06				
11	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
12	83.8	90.9	- -	- -	− 3 15.29	+ 11.91	39 11 53.19	+19 41 25.99	- - -		
13	- -	- -	- -	- -	− 2 35.74	+ 12.50	39 12 33.33				
14	79.1	84.2	- -	- -	+ 1 48.95	−15 32.26	35 26 15.52	+23 27 23.73	- - -	C. F.	14. East Sidereal Clock +5′ 43″. 35 fast of chronograph.
15	- -	- -	82.0	80.0	- - -	- -	- - - -	- - - -	- - -		
16	- -	- -	- -	- -	− 1 14.97	+ 1 13.64	73 49 55.82	−14 55 58.30	- - -		
17	79.4	75.8	- -	- -	− 1 51.48	+ 1 13.61	73 49 19.28				
18	- -	-	79.0	81.0			- - - -	- - -	- - -		18. Clock pen did not mark. Clear sky with wind and some passing clouds.
19	78.9	75.2	- -	78.0	− 4 57.47	+ 1 16.91	74 26 16.92	−15 32 37.67	+27.14		
20	- -	- -	- -	- -	− 4 15.23	+ 1 22.63	76 22 4.45	−17 28 25.20	- - -		
21	77.9	73.8	77.0	- -	+ 2 55.36	− 23.42	357 2 30.39	+61 51 8.86	+ 8.23		21. East Sidereal Clock about +6′ 2″ fast.
22	79.9	84.2	- -	- -	- - -	- -	- - - -	- - - -	- - -		22. Passing clouds. Could not get a Nadir, on account of storm of wind. No Nadir determined.
23	- -	- -	- -	- -	+ 1 19.10	+ 13.24	35 11 31.72	+23 26 18.53	- -		
24	74.5	74.8	76.0	- -	+ 2 52.05	+ 13.73	35 43 9.73				
25	- -	- -	- -	- -	- - -	- -	- - -	- - - -	- - -		
26	70.3	68.7	- -	- -	− 2 6.14	+ 13.04	34 38 8.47	+24 15 30.78	- - -		26. Too near the sun.
27	- -	- -	- -	- -	+ 50.00	+ 13.60	35 46 3.67	+23 23 25.52	- - -		
28	69.6	68.8	- -	73.0	− 48.93	+ 13.09	35 14 23.79				
29	71.5	71.6	- -	72.5	+ 3 49.46	+ 34.94	40 34 24 12	+18 19 15.13	- - -		
30	- -	- -	- -	- -	+ 4 4.95	− 7.79	40 33 56.88	+18 19 42.37	- - -		
31	- -	- -	- -	73.0	- - -	- - -	- - -	- - - -	- - -		
32	71.4	64.4	- -	72.0	− 2 10.36	+ 1 18.95	74 19 8.27	−15 25 29.02	+35.33		
33	71.4	64.4	- -	- -	+ 1 12.44	+ 1 15.96	73 47 28.63	−14 53 26.58	- - -		
34	- -	- -	- -	- -	+ 26.88	+ 1 15.93	73 46 43.04				
35	- -	- -	73.0	73.0	- - -	- - -	- - - -	- - - -	-		
36	- -	- -	- -	- -	+ 2 47.19	+ 13.48	35 48 2.74	+23 21 23.45	- - -		
37	71.4	77.8	- -		+ 2 14.80	+ 12.98	35 16 28.86				
38	73.5	80.4	75.0	75.0	+ 1 47.48	+ 14.00	40 47 0.51	+18 7 2.99	- - -		
39	- -	- -	- -	-	+ 1 0.14	+ 12.85	40 46 12.02				
40	- -	- -	76.0	75.0	- - -	- - -	- - - -	- - - -	- - -		
41	73.7	78.2	75.0	- -	+ 1 48.58	+ 29.11	49 32 16.71	+ 9 21 26.88	- -		
42	- -	- -	- -	- -	+ 1 39.91	+ 29.11	49 32 8.04				
43	71.9	66.7	- -	- -	− 2 10.90	+ 1 18.71	74 19 7.04	−15 25 27.79	+35.31		
44	71.9	66.7	69.0	- -	+ 41.70	+ 1 15.72	73 46 56.79	−14 52 56.93	- - -		
45	- -	- -	- -	- -	+ 0.52	+ 1 15.69	73 46 15.58				
46	- -	- -	73.0	72.0	- - -	- - -	- - - -	- - - -	- - -		
47	77.1	71.7	76.0	- -	+ 1 17.37	+ 1 20.63	75 22 37.37	−16 28 58.12	+25.37		
48	- -	- -	- -	-	−15 23.72	+ 1 19.80	75 5 55.45	−16 12 16.20	+25.29		
49	- -	- -	77.0	75.0	- - -	- - -	- - - -	- - - -	- - -		
50	- -	- -	76.0	75.0	- - -	- - -	- - - -	- - - -	- - -		
51	73.7	68.4	- -	- -	− 4 48.77	+ 1 17.67	74 16 26.09	−15 22 46.84	+35.18		
52	- -	- -	- -	- -	− 2 6.28	+ 1 17.80	74 19 8.71	−15 25 29.46	+35.25		
53	73.4	68.5	- -	- -	− 26.31	+ 1 14.77	73 45 46.99	−14 51 47.27	- - -		
54	- -	- -	- -	- -	− 1 7.22	+ 1 14.74	73 45 6.05				
55	82.0	85.1	- -	- -	+ 2 47.35	+ 13.69	41 48 0.69	+17 6 3.52	- - -		55. July 1 to Sept. 2, $r = 62''.768$.
56	- -	- -	- -	-	+ 1 58.66	+ 12.47	41 47 10.78				
57	- -	- -	82.0	80.0	- - -	- - -	- - - -	- - - -	- - -		
58	76.1	73.7	- -	77.0	− 56.69	+ 14.15	41 59 18.13	+16 54 45.52	- - -		
59	- -	-	- -	- -	− 1 44.25	+ 12.91	41 58 29.33				
60	- -	- -	78.0	78.0	- - -	- - -	- - - -	- - - -	- -		
61	- -	77.9	- -	75.0	− 1 10.57	+ 1 13.35	73 45 4.26	−14 51 3.77	- - -		
62	- -	- -	- -	- -	− 1 53.01	+ 1 13.32	73 44 21.79				
63	74.0	67.9	75.0	- -	− 2 17.01	+ 1 1.69	67 43 42.96	− 8 50 3.71	+29.30		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
July 2	1	Nadir	- -	199 59 60.4	49.3	59.8	56.9	55.8	57.2	56.57	30.5985	30.6520	- -
	2	Lalande, 29306	- -	76 24 63.7	53.7	65.3	58.8	62.2	60.1	60.63	31.3730	- - -	29.991
	3	B.A.C. 5408	- -	76 59 60.7	53.4	63.5	58.9	60.5	58.8	59.30	29.3352	- - -	29.995
	4	Lalande, 29696	- -	- - - -	- -	-	- -	- -	- -	- -	10.3226	- - -	- -
	5	Anonymous	- -	- - -	- -	- -	- -	-	- -	- -	24.0452	- - -	- -
	6	B.A.C. 5580	- -	78 29 61.0	53.3	62.0	57.5	58.6	58.2	58.43	30.3188	- - -	- -
	7	Lalande, 30479	- -	- - - -	- -	- -	- -	- -		-	19.4618	- - -	- -
	8	B.A.C. 5663	- -	79 4 60.7	52.2	62.6	57.2	58.9	57.2	58.47	33.5864	- - -	30.001
3	9	Sun, S.	- -	36 4 66.4	55.4	65.3	62.1	63.4	62.2	62.47	22.6634	- - -	30.115
	10	Venus, S.	- -	42 39 62.4	52.4	60.9	57.2	59.6	59.5	58.67	30.6528	- - -	30.095
	11	Venus, N.	- -	- - - -	- -	- -	- -	-	- -	- -	31.4320	- - -	- -
	12	Nadir	-	199 59 63.9	51.6	62.2	57.5	57.6	59.2	58.67	30.6059	30.6259	- -
	13	Mars, S.	- -	51 9 62.2	50.4	61.3	55.6	58.4	59.4	57.88	31.8780	- - -	- -
	14	Mars, N.	- -	- - - -	- -	- -	- -	- -	-	- -	31.9998	- - -	- -
	15	Nadir	- -	199 59 62.2	51.5	62.9	57.7	58.8	60.2	58.88	30.6436	30.6605	- -
	16	"	- -	73 44 63.2	51.9	64.8	58.0	59.8	57.2	59.15	33.0814	- - -	- -
	17	Jupiter, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.8472	- - -	30.088
	18	Jupiter, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	32.5275	- - -	- -
	19	Weisse XV, 265	- -	72 39 64.2	54.2	64.8	59.2	61.2	59.4	60.50	29.2552	- - -	30.088
	20	Weisse XV, 281	- -	- - - -	- -	- -	-	- -	- -	- -	31.3876	- -	- -
5	21	Sun, S.	- -	36 19 61.2	48.9	60.5	55.9	59.2	55.2	56.82	26.5565	30.6495	- -
	22	Sun, N.	- -	35 54 61.4	49.5	60.5	56.5	59.9	55.5	57.22	32.7360	- - -	30.099
	23	Nadir	- -	199 59 63.3	50.5	62.7	59.4	58.3	60.4	59.10	30.6361	30.6495	- -
6	24	Sun, S.	- -	36 29 65.8	53.8	65.2	59.6	63.5	60.5	61.40	30.4102	- - -	30.148
	25	Sun, N.	- -	35 59 76.1	64.9	76.2	69.8	72.9	70.6	71.75	32.0580	- - -	30.148
	26	Mercury, S.	- -	35 34 59.3	47.5	58.2	52.8	55.8	54.9	54.75	23.9920	- -	30.129
	27	Mercury, N.	- -	- - -	- -	- -		- -	- -	24.1292	- -	- -	
	28	Nadir	- -	199 59 63.9	50.5	63.2	55.5	58.3	60.3	58.62	30.7021	30.7240	- -
7	29	Mercury, S.	- -	35 59 66.1	52.8	65.0	56.5	62.8	61.8	60.83	28.1824	- - -	30.168
	30	Mercury, N.	- -	- - - -	- -	-	- -	- -	- -	- -	28.2898	- - -	- -
	31	Venus, S.	- -	42 49 67.5	54.5	66.8	56.3	64.3	64.2	62.27	30.8258	- - -	30.178
	32	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.6422	- - -	-
	33	Nadir	- -	199 59 64.2	48.2	62.3	52.8	57.3	62.4	57.87	- - -	- - -	- -
	34	"	- -	63.9	48.6	61.9	53.2	57.4	62.2	57.87	30.6502	30.6833	- -
	35	Nadir	- -	199 59 64.1	49.4	63.2	53.6	59.8	62.6	58.78	- - -	- - -	- -
	36	"	- -	64.8	50.5	63.2	54.8	60.4	62.4	59.35	30.6735	30.6879	- -
	37	Jupiter, S.	- -	73 44 65.8	50.7	63.3	53.0	59.1	58.1	58.33	31.8172	- - -	30.162
	38	Jupiter, N.	- -	- - -	- -	- -	- -	-	- -	- -	32.4602	- - -	- -
	39	ζ Ursæ Minoris	- -	340 39 63.8	50.9	63.2	55.4	62.5	58.4	59.03	31.4872	- - -	30.165
8	40	Mercury, N.	- -	36 24 63.5	51.6	64.5	55.8	62.8	61.3	59.92	30.4880	- - -	30.184
	41	Mercury, S.	- -	- - - -	- -	-	- -	- -	-	- -	30.3750	- - -	- -
	42	Venus, N.	- -	42 59 61.8	50.7	61.1	53.9	60.7	59.8	58.00	32.5978	- - -	30.182
	43	Venus, S.	- -	- - - -	- -	-	- -	- -	- -	- -	31.7602	- - -	-
	44	Nadir	- -	199 59 64.0	51.3	64.9	57.5	59.9	63.3	60.15	30.6630	30.6603	-
	45	"	- -	64.1	51.3	64.5	56.9	59.8	64.0	60.10	- - -	- - -	- -
	46	α Leonis	- -	46 9 63.3	50.4	63.1	54.7	60.6	60.8	58.82	28.8560	- -	30.159
	47	η Bootis	-	39 44 60.8	50.8	59.7	61.1	60.4	53.4	57.70	30.8750	- -	30.142
	48	Nadir	- -	199 59 62.5	49.2	62.8	55.0	57.9	61.6	58.17	30.6370	30.6649	- -
	49	"	- -	62.4	49.8	62.5	54.9	58.1	61.5	58.20	- - -	- - -	- -
	50	β Libræ	-	67 44 62.7	50.3	63.2	54.4	59.2	60.5	58.38	32.8330	- - -	- -
	51	Weisse XV, 400	- -	73 9 62.2	50.8	62.1	55.6	60.4	58.8	58.32	30.1100	- - -	30.147
	52	Weisse XV, 400	- -	74 49 64.0	54.4	65.3	55.8	61.9	61.2	60.43	32.4300	- - -	- -
	53	A. Z. 115, 164	- -	347 39 67.0	57.4	71.3	60.8	64.9	65.2	64.43	28.7910	- - -	30.152
9	54	Sun, N.	- -	36 19 64.0	52.2	64.9	58.4	59.8	59.8	59.85	31.3608	30.6628	30.162
	55	Sun, S.	- -	36 49 72.5	61.6	73.0	65.5	70.6	69.1	68.72	29.9422	- - -	30.162
	56	Mercury, S.	- -	36 49 60.4	49.8	59.4	54.5	58.5	57.2	56.63	35.5452	- - -	30.165
	57	Mercury, N.	- -	- - -	-	-	-	-		- -	35.6475	- - -	
	58	Venus, S.	-	43 4 59.8	47.8	60.8	53.2	56.9	56.7	55.87	28.3554	- - -	30.168
	59	Venus, N.	-	- - -	-	-	-	- -	- -		29.2040	- - -	- -
	60	Nadir	- -	199 59 63.5	50.7	65.4	57.8	59.5	61.8	59.78	30.6610	30.6628	- -
	61	"	- -	63.4	51.3	65.6	57.3	59.5	62.3	59.90	- - -	- - -	
	62	α Hydræ	- -	66 54 63.8	50.9	64.4	58.0	59.2	61.7	59.67	31.6720	- -	30.149
10	63	Sun, S.	- -	36 59 61.2	49.0	61.4	55.5	59.3	56.3	57.12	32.1005	- - -	30.154
	64	Sun, N.	- -	36 29 71.3	59.1	70.9	63.5	67.9	66.8	66.58	33.7095	- - -	30.154
	65	Mercury, N.		37 14 61.6	48.9	62.2	54.3	58.2	56.7	57.00	29.7487	- - -	30.148
	66	Mercury, S.	-	- - - -	- -	-	- -	- -	- -	-	29.6320	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	- -	- -	76.0	76.0	- - -	- - -	- - - -	- - - - -	- - -	C.F.	
2	73.0	65.4	- -	- -	— 45.08	+ 1 24.75	76 25 40.30	—17 32 1.05	+23.00		
3	72.4	65.2	- -	- -	+ 1 22.83	+ 1 26.80	77 2 48.93	—18 9 9.68	+21.82		
4	- -	- -	- -	- -	+20 13.47	+ 1 22.60	77 21 35.37	—18 27 56.12	+20.92		
5	- -	- -	- -	- -	+ 6 54.67	+ 1 21.88	77 8 15.85	—18 14 36.60	+19.07		
6	71.9	64.8	- -	- -	+ 21.09	+ 1 31.97	78 31 51.49	—19 38 12.24	+16.71		
7	- -	- -	- -	- -	+11 42.39	+ 1 26.84	78 43 7.66	—19 49 28.41	+15.70		
8	71.0	64.5	- -	- -	— 3 4.09	+ 1 33.96	79 3 28.34	—20 9 49.09	+14.42		
9	75.0	75.6	78.0	- -	+ 8 19.81	—15 31.25	35 57 51.03	+22 55 48.22	-		
10	76.2	78.8	- -	- -	— 1.64	+ 14.15	42 10 11.18	+16 43 53.10	- - -		
11	- -	- -	- -	- -	— 50.42	+ 12.88	42 9 21.13				
12	- -	- -	79.0	78.0	- - -	- - -	- - - -	- - - -	- - -		12. Planets and Sun tremulous.
13	- -	- -	- -	- -	— 1 18.65	+ 32.24	51 9 11.47	+ 7 44 31.57	- - -		
14	- -	- -	- -	- -	— 1 26.23	+ 32.24	51 9 3.89				
15	- -	- -	78.0	77.0	- - -	- - -	- - - -	- - -	- -		
16	- -	- -	- -	- -	— 2 31.90	+ 1 16.20	73 43 43.45	—14 50 4.20	- - -		
17	76.2	70.4	- -	- -	— 1 14.55	+ 1 14.82	73 44 59.42	—14 50 58.90	- - -		
18	- -	- -	- -	- -	— 1 57.06	+ 1 14.79	73 44 16.88				
19	75.6	66.0	- -	74.0	+ 1 28.36	+ 1 14.06	72 42 42.92	—13 49 3.67	+29.64		
20	- -	- -	- -	- -	— 45.46	+ 1 13.96	72 40 29.00	—13 46 49.75	+29.55		
21	- -	- -	- -	- -	+ 4 17.90	+ 13.51	36 24 28.23	+22 44 55.30	- - -		
22	78.6	92.4	- -	- -	— 2 10.60	+ 13.05	35 52 59.67				
23	- -	- -	82.0	78.0	- - -	- - -	- - - -	- - - -	- - -		
24	79.6	87.9	- -	- -	+ 20.89	+ 13.75	36 30 36.04	+22 38 50.27	- -		
25	80.0	88.4	- -	- -	— 1 23.09	+ 13.27	35 59 1.93				
26	81.0	88.4	- -	- -	+ 7 2.61	+ 13.87	35 42 11.23	+23 11 32.31	- -		
27	- -	- -	- -	- -	+ 6 54.03	+ 13.87	35 42 2.65				
28	-	- -	85.0	82.0	- -	- - -	- - - -	- - - -	- -		
29	85.1	91.2	86.0	84.0	+ 2 37.10	+ 13.72	36 2 51.65	+22 50 50.94	- - -		
30	- -	- -	- -	- -	+ 2 30.42	+ 13.72	36 2 44.97				
31	85.9	91.0	-	- -	— 9.01	+ 14.21	42 50 7.47	+16 3 58.27	- - -		
32	- -	- -	- -	- -	— 1 0.13	+ 12.35	42 49 14.49				
33	- -	- -	- -	83.0	- - -	- - -	- - - -	- - - -	- -		
34	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
35	- -	- -	83.0	82.0	- - -	- - -	- - - -	- - - -	- - -		35. Very tremulous. Windy.
36	- -	- -	- -	- -	-	- - -	- - - -	- - - -	- - -		
37	84.5	82.7	- -	- -	— 1 10.94	+ 1 13.25	73 45 0.64	+14 51 1.28	- - -		
38	- -	-	- -	- -	— 1 51.12	+ 1 13.22	73 44 20.43				
39	83.5	79.9	- -	- -	— 50.02	— 45.23	340 38 23.78	+78 15 15.47	+ 7.28		
40	86.0	89.2	86.0	- -	+ 10.90	+ 14.09	36 25 24.91	+22 28 10.75	- - -		
41	- -	- -	- -	- -	+ 18.08	+ 14.09	36 25 32.09				
42	86.2	89.8	- -	-	— 2 1.52	+ 12.38	42 58 8.86	+15 55 3.12	- - -		
43	-	- -	-	-	— 1 9.07	+ 14.48	42 59 3.41				
44	- -	- -	87.0	84.0	- - -	- - -	- - - -	- - - -	- - -		
45	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
46	87.0	90.8	- -	- -	+ 1 53.48	+ 26 61	46 12 18.91	+12 41 20.34	+33.43		
47	85.8	85.6	- -	-	— 13.26	+ 19.59	39 45 4.03	+19 8 35.22	+30.53		
48	- -	- -	85.0	83.0	- -	- - -	- - -	- - - -	- - -		
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
50	83.4	80.9	- -	82.0	— 2 16.15	+ 1 0.45	67 43 42.68	— 8 50 3.43	+28.99		
51	83.2	80.9	- -	81.5	+ 34.90	+ 1 13.40	73 11 46.62	—14 18 7.37	+28.61		
52	82.8	80.7	- -	81.0	— 1 50.62	+ 1 17.92	74 49 27.73	—15 55 48.48	- - -		52. Almost invisible.
53	81.6	79.4	81.0	82.0	+ 1 57.62	— 34.91	347 41 27.14	+71 12 12.11	+ 4.32		
54	82.2	84.3	84.0	82.0	— 42.95	+ 13.70	36 19 30.60	+22 18 19.73	- - -		
55	82.5	86.8	84.0	83.0	+ 45.64	+ 14.09	36 51 8.45				
56	83.6	86.4	85.0	- -	— 5 6.37	+ 14.42	36 45 4.68	+22 8 37.79	- - -		
57	- -	- -	- -	- -	— 5 12.81	+ 14.42	36 44 58.24				
58	84.0	87.2	85.0	- -	+ 2 25.01	+ 14.84	43 7 35.72	+15 46 31.37	- - -		
59	- -	- -	- -	- -	+ 1 31.69	+ 12.48	43 6 40.04				
60	- -	- -	85.0	84.0	- - -	- - -	- - - -	- - - -	- - -		
61	-	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
62	84.9	91.3	- -	- -	— 1 3.32	+ 57.67	66 54 54.02	— 8 1 14.77	+33.80		
63	- -	- -	84.0	82.0	— 1 30.08	+ 14.03	36 58 41.07	+22 10 44.43	- - -		
64	82.4	92.5	84.0	82.0	— 3 11.58	+ 13.57	36 27 8.57				
65	83.5	88.0	85.0	- -	+ 56.89	+ 14.92	37 16 8.81	+21 37 26.73	- - -		
66	- -	- -	- -	- -	— 1 4.31	+ 14.92	37 16 16.23				

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
July 10	1	Venus, N.	-	43 14 61.9	48.0	60.5	54.2	58.1	56.8	56.58	31.0582	- - -	30.148
	2	Venus, S.		- - -	-	- -	- -	- -	-	- -	30.2432	- - -	- -
	3	Nadir	- -	199 59 63.8	50.9	65.0	58.8	58.8	62.1	59.90	30.6570	30.6554	- -
	4	"	- -	64.0	51.3	65.4	58.9	59.4	62.3	60.22	- - -	- - -	- -
	5	α Leonis	- -	46 9 63.2	49.8	64.9	55.8	59.1	58.2	58.50	28.8160	- - -	30.135
12	6	Venus, S.	- -	43 29 63.9	49.6	62.2	54.9	59.9	61.3	58.63	30.6074	- - -	- -
	7	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	31.3725	- - -	- -
15	8	Sun, N.	- -	37 9 63.8	54.2	63.5	57.3	60.4	58.5	59.62	30.0764	- - -	- -
	9	Sun, S.	- -	37 39 75.3	64.9	76.2	69.5	72.1	70.3	71.38	28.7016	- - -	30.118
	10	α Hydræ	- -	66 54 65.2	55.6	66.5	59.8	62.1	62.5	61.95	31.6960	- - -	30.122
	11	Nadir	- -	199 59 64.2	53.1	64.8	58.9	59.1	61.2	60.22	30.6390	30.6346	- -
	12	"	- -	199 59 62.2	51.3	63.8	56.4	58.0	60.1	58.63	30.6290	30.6498	- -
	13	"	- -	62.2	51.5	63.7	56.9	58.1	59.5	58.65	- - -	- - -	- -
	14	Jupiter, S.	- -	73 44 63.4	54.3	65.7	59.5	61.2	59.7	60.63	29.3350	- - -	30.123
	15	Jupiter, N.	- -	- - - -	- -	- -	-	- -	- -	- -	29.9262	- - -	- -
	16	β Libræ	- -	67 44 61.3	51.3	62.8	55.5	57.5	58.7	57.78	32.8210	- - -	30.123
19	17	Sun, S.	- -	38 24 65.8	59.3	68.5	62.1	65.9	64.4	64.33	32.0156	- - -	- -
	18	Sun, N.	- -	37 54 65.8	59.2	68.2	62.4	65.9	64.1	64.27	33.4082	- - -	30.333
	19	Nadir	- -	199 59 63.9	55.9	66.8	61.1	63.0	64.0	62.45	30.6790	30.6393	- -
	20	"	- -	64.2	55.7	67.1	60.9	63.2	63.9	62.50	- - -	- - -	- -
	21	Mercury, S.	- -	42 4 64.4	55.8	64.7	59.8	64.5	61.3	61.75	29.8430	- - -	30.329
	22	Mercury, N.	- -	- - -	- -	- -	- -	- -	- -	- -	29.9702	- - -	- -
	23	Nadir	- -	199 59 64.1	56.8	66.9	60.5	63.6	63.4	62.55	30.6750	30.6341	- -
	24	Jupiter, N.	- -	73 49 64.2	56.7	66.8	61.5	63.6	62.7	62.58	32.2118	- - -	- -
	25	Jupiter, S.	- -	- - - -	-	- -	- -	- -	- -	- -	31.6290	- - -	- -
	26	β Ursæ Majoris	- -	344 4 61.2	54.6	65.4	57.4	63.2	59.8	60.27	27.4260	- - -	30.324
	27	β Libræ	-	67 44 64.7	58.9	68.2	61.4	64.7	63.0	63.48	32.9100	- - -	- -
20	28	Nadir	- -	199 59 66.2	60.4	70.1	64.9	65.2	65.6	65.43	21.1410	30.6119	30.000
	29	"	- -	66.5	59.8	70.0	64.9	65.5	65.2	65.32	- - -	- - -	- -
	30	Sun, N.	- -	38 4 64.1	56.4	66.1	61.3	64.2	61.8	62.32	32.1960	- - -	- -
	31	Sun, S.	-	38 35 67.4	58.8	68.3	60.8	67.4	64.5	64.53	30.6652	- - -	30.318
	32	α Hydræ	- -	66 54 63.7	55.2	66.8	60.9	63.5	62.3	62.07	31.7150	- - -	30.320
	33	Mercury, N.	- -	42 39 64.3	56.8	66.8	60.7	64.9	61.3	62.47	28.7222	- - -	30.320
	34	Mercury, S.	- -	- - - -	- -	- -	-	- -	-	- -	28.8453	- - -	- -
	35	α Leonis	- -	46 9 63.1	54.8	65.4	58.7	62.9	59.8	60.78	28.8470	- - -	30.322
21	36	Sun, S.	- -	38 44 64.5	55.9	67.2	61.4	65.0	61.5	62.58	29.1050	- - -	30.160
	37	Sun, N.	- -	38 14 70.9	61.3	74.2	67.0	70.4	66.9	68.45	30.7062	- -	30.160
	38	Nadir	- -	199 59 63.2	53.5	65.9	60.1	60.6	61.3	60.77	30.6770	30.6634	-
	39	"	- -	63.0	54.5	65.5	59.9	61.1	61.4	60.90	- - -	- - -	- -
	40	α Hydræ	- -	66 54 61.9	52.5	65.7	58.5	62.6	60.0	60.20	31.6890	- - -	30.158
	41	Mercury S.	- -	43 19 62.4	53.8	63.3	57.7	60.4	59.7	59.55	31.9176	- - -	30.158
	42	Mercury, N.	- -	- -	- -	-	- -	- -	- -	- -	32.0254	- - -	- -
	43	α Leonis	- -	46 9 61.9	52.9	64.4	55.5	61.8	58.3	59.13	28.8310	- - -	30.162
22	44	Sun, N.	- -	38 29 64.0	54.7	64.5	55.2	64.4	60.5	60.55	33.5142	- - -	30.061
	45	Sun, S.	- -	38 59 65.0	55.9	65.8	55.8	65.6	62.1	61.70	31.9752	- - -	30.060
	46	Nadir	- -	199 59 64.6	50.8	63.9	54.0	59.7	61.2	59.03	30.6430	30.6548	- -
	47	"	- -	64.7	51.2	64.3	54.5	60.0	61.5	59.37	- -	- - -	- -
23	48	Sun, S.	- -	39 9 61.6	51.8	61.7	53.9	61.8	60.4	58.53	29.7570	- - -	30.038
	49	Sun, N.	- -	38 34 68.4	57.5	68.5	59.9	68.3	66.0	64.77	26.5400	- - -	- -
	50	Nadir	- -	199 59 61.4	49.9	61.7	53.9	58.0	58.8	57.28	30.6040	30.6453	
	51	"	- -	61.5	49.8	61.8	53.7	58.1	59.2	57.35	- - -	- - -	- -
	52	Mercury N.	- -	44 29 61.8	49.7	61.1	51.9	60.0	57.7	57.03	27.9656	- - -	30.008
	53	Mercury S.	-	- -	-	-	- -	- -	- -		27.8332	- - -	- -
	54	α Ursæ Majoris	-	356 19 64.5	54.8	66.4	58.3	63.2	61.4	61.43	29.7630	- - -	29.997
	55	Jupiter, N.	- -	73 49 62.8	51.1	62.0	56.2	59.5	58.9	58.42	28.2370	- -	- -
	56	Jupiter, S.	- -	- - - -	-		- -	- -	- -	- -	28.7930	- -	- -
	57	β Libræ	- -	67 44 61.5	50.8	61.6	52.8	58.8	60.2	57.62	32.7826	- - -	29.958
	58	α Coronæ Borealis	- -	31 39 54.5	43.8	53.6	46.2	53.9	52.1	50.68	30.1468	- - -	- -
	59	Nadir	- -	199 59 62.4	50.2	61.1	53.3	58.6	60.2	57.63	30.5992	30.6348	- -
	60	"	- -	62.8	49.8	61.2	53.6	58.8	60.1	57.72	- -	- - -	-
	61	ε Ursæ Minoris	- -	336 34 62.8	49.9	61.5	55.8	60.5	54.9	57.57	27.8862	- -	29.975
24	62	Venus, N.	- -	44 19 62.0	51.8	60.6	52.9	56.9	56.4	56.77	32.9064	- -	30.062
	63	Venus, S.	-	- -	-		- -	- -	- -	-	32.1652	- -	- -
	64	Sun, N.	- -	38 49 61.2	50.5	62.8	54.9	59.8	58.4	57.93	28.7146	- - -	- -
	65	Sun, S.	- -	39 19 61.8	50.6	60.5	54.7	57.6	58.9	57.35	27.1560	- - -	30.062

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	83.9	88.8	85.0	- -	− 25.24	+ 12.37	43 14 43.71	+15 38 28.57	- - -	C.F.	
2	- -	- -	- -	- -	+ 26.02	+ 15.05	43 15 37.65				
3	- -	- -	85.0	83.0	- - -	- - -	- - - -	- - - -	- - -		
4	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
5	85.9	91.1	86.0	- -	+ 1 55.40	+ 26.58	46 12 20.48	+12 41 18.77	+33.39		
6	88.1	95.6	- -	- -	+ 1.79	+ 15.65	43 30 16.07	+15 23 48.96	- - -		6. Cloudy. Tremulous observation.
7	- -	- -	- -	- -	− 46.14	+ 12.02	43 29 24.51				6, 7. No observation for nadir point.
8	- -	- -	- -	- -	+ 35.72	+ 14.57	37 10 49.91	+21 27 0.36	- -		
9	78.6	80.4	81.0	- -	+ 2 1.46	+ 15.04	37 42 27.88				
10	79.8	79.2	- -	- -	− 1 6.61	+ 58.93	66 54 54.27	− 8 1 15.02	+33.02		10. Tremulous clouds.
11	- -	- -	81.0	82.0	- - -	- - -	- - - -	- - - -	- - -		11. Tremulous.
12	- -	- -	80.0	80.0	- - -	- - -	- - - -	- - - -	- - -		12. Tremulous. Misty night.
13	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
14	79.8	76.3	79.0	- -	+ 1 22.70	+ 1 14.21	73 47 37.54	−14 53 39.61	- - -		14. Misty.
15	- -	- -	- -	- -	+ 45.37	+ 1 14.19	73 47 0.19				
16	79.4	74.6	79.0	- -	− 2 16.34	+ 1 1.14	67 43 42.58	− 8 50 3.33	+28.71		
17	- -	79.4	78.0	- -	− 1 25.67	+ 15.86	38 23 54.52	+20 45 29.02	- - -		
18	77.5	79.3	- -	- -	− 2 53.69	+ 15.36	37 52 25.94				
19	- -	- -	80.0	82.0	- - -	- - -	- - - -	- - - -	- - -		
20	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
21	78.4	82.2	- -	- -	+ 49.92	+ 19.73	42 6 11.40	+16 47 31.83	- - -		
22	- -	- -	- -	- -	+ 41.98	+ 19.71	42 6 3.44				
23	- -	- -	78.0	78.0	- - -	- - -	- - - -	- - - -	- - -		
24	78.0	76.4	-	77.0	− 1 38.90	+ 1 14.84	73 49 38.52	−14 56 17.54	- - -		
25	- -	- -	- -	- -	− 1 2.38	+ 1 14.86	73 50 15.06				
26	77.7	75.4	- -	- -	+ 3 21.54	− 40.45	344 7 41.36	+74 45 57.89	+12.52		
27	77.4	74.9	- -	-	− 2 22.90	+ 1 1.53	67 43 42.11	− 8 50 2.86	+28.54		
28	- -	- -	- -	76.0	- - -	- - -	- - - -	- - - -	- - -		28. The micrometer reading for the nadir is wrong. The adopted values have been found from α Hydræ and α Leonis, viz. 30.6119.
29	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
30	76.4	78.3	76.0	76.0	− 1 38.60	+ 15.57	38 3 39.27	+20 34 10.98	- - -		
31	76.6	78.8	- -	- -	− 3.32	+ 16.06	38 35 17.27				
32	78.3	79.8	- -	- -	− 1 9.24	+ 59.26	66 54 52.09	− 8 1 12.84	+32.38		
33	78.3	79.8	- -	- -	+ 1 58.60	+ 20.43	42 42 21.50	+16 11 21.67	- - -		
34	- -	- -	- -	- -	+ 1 50.82	+ 20.38	42 42 13.67				
35	78.8	80.9	- -	- -	+ 1 50.72	+ 27.26	46 12 18.76	+12 41 20.49	+33.20		
36	77.8	83.5	- -	- -	+ 1 38.57	+ 15.95	38 46 57.10	+20 22 30.13	- - -		
37	77.9	83.8	- -	- -	− 2.75	+ 15.45	38 15 21.15				
38	- -	- -	82.0	- -	- - -	- - -	- - - -	- - - -	- - -		
39	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- -		
40	79.3	86.6	- -	- -	− 1 4.36	+ 58.21	66 54 54.05	− 8 1 14.80	+32.27		
41	79.9	87.9	- -	79.0	− 1 18.77	+ 20.58	43 19 1.36	+15 34 41.29	- - -		
42	- -	- -	- -	- -	− 1 25.48	+ 20.50	43 18 54.57				
43	81.0	88.2	- -	80.0	+ 1 54.96	+ 26.76	46 12 20.85	+12 41 18.40	+33.19		
44	83.9	90.5	85.0	81.0	− 2 58.35	+ 15.36	38 27 17.56	+20 10 33.15	- - -		
45	84.2	90.4	85.0	- -	− 1 22.90	+ 15.84	38 58 54.64				
46	- -	- -	86.0	81.0	- -	- - -	- - - -	- - - -	- - -		
47	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
48	85.9	88.3	86.0	- -	+ 56.54	+ 16.07	39 11 10.14	+19 58 15.03	- - -		
49	86.0	88.2	86.0	83.0	+ 4 17.92	+ 15.61	38 39 38.30				
50	- -	- -	86.0	83.0	- - -	- - -	- - - -	- - - -	- - -		
51	- -	- -	- -	-	- - -	- - -	- - - -	- -	- - -		
52	86.5	88.9	- -	- -	+ 2 48.17	+ 21.50	44 33 6.70	+14 20 28.20	- - -		
53	- -	-	- -	- -	+ 2 56.73	+ 21 64	44 33 15.40				
54	86.9	88.9	86.0	84.0	+ 55.36	− 23.64	356 20 33.15	+62 33 6.10	+29.27		
55	85.8	84.9	84.0	83.0	+ 2 31.31	+ 1 12.99	73 53 42.72	−14 59 45.91	- - -		
56	- -	- -	- -	- -	+ 1 56.21	+ 1 12.97	73 53 7 60				
57	85.6	84.8	- -	- -	− 2 14.97	+ 59.65	67 43 42 30	− 8 50 3.05	+28.35		h. m. m. s.
58	83.0	83.4	- -	- -	+ 30.73	+ 11.26	31 40 32.67	+27 13 6.58	+14.62		58. Clock fast at 15 42 + 2 44.22.
59	- -	- -	83.0	82.0	- - -	- - -	- - - -	- - - -	- - -		
60	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
61	82.9	77.8	82.0	- -	+ 2 52.49	− 51.97	336 36 58.09	+82 16 41.16	− 4.06		
62	80.0	81.3	81.0	80.0	− 2 23.39	+ 12.78	44 17 46 16	+14 35 26.46	- - -		
63	- -	- -	- -	- -	− 1 36.72	+ 19.37	44 18 39.42				
64	81.0	- -	- -	- -	+ 2 0.57	+ 16.06	38 52 14.56	+19 45 36.19	- - -		
65	80.8	81.8	- -	- -	+ 3 37.68	+ 16.53	39 23 51.56				

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
July 24	1	Nadir	- -	199 59 61.5	49.9	62.5	55.3	56.8	58.9	57.48	30.5844	30.6227	- -
	2	"	-	61.8	50.5	62.4	55.5	56.7	58.9	57.63	- -	- - -	- -
	3	Mercury, S.	- -	49 9 60.7	50.9	61.8	54.3	58.4	57.2	57.22	30.2572	- -	30.049
	4	Mercury, N.	- -	- -	- -	- -	- -	- -	- -	- -	30.3928	- - -	- -
	5	α Ursæ Majoris	- -	356 19 60.7	50.8	63.2	54.6	57.1	58.5	57.48	29.6876	- - -	30.042
27	6	Sun, S.	-	40 4 61.2	51.9	61.2	54.1	57.6	58.1	57.35	32.1342	- - -	30.045
	7	Sun, N.	- -	39 34 64.8	55.7	65.4	58.8	62.7	64.2	61.93	33.7110	- - -	- -
	8	Mercury, N.	- -	47 4 62.8	57.2	61.8	55.1	58.9	58.5	58.05	32.6104	- - -	30.042
	9	Mercury, S.	-	- - - -	- -	- -	- -	- -	- -	- -	32.4477	- - -	- -
	10	Nadir	- -	199 59 61.8	49.4	62.6	54.2	56.4	58.3	57.12	30.5957	30.6393	- -
	11	"	-	62.2	49.4	62.3	54.3	56.5	58.7	57.23	- - -	- -	- -
	12	Nadir	- -	199 59 62.5	51.8	62.9	56.8	57.5	59.4	58.48	30.6050	30.6275	- -
	13	"	- -	62.8	51.7	62.9	56.8	57.7	59.2	58.52	- - -	- - -	- -
	14	η Ophiuchi	- -	74 24 62.2	51.4	63.2	54.4	57.9	51.7	56.80	31.4080	- - -	30.029
	15	ν Serpentis	-	71 34 60.9	49.7	59.9	53.6	57.4	55.8	56.25	31.5385	- - -	30.029
	16	Moon, N.	- -	81 54 60.2	49.2	58.8	53.4	55.1	53.7	55.07	25.2428	- - -	- -
	17	Moon, S.	- -	82 29 59.9	51.2	60.2	53.9	56.3	54.3	55.97	27.9762	- - -	- -
	18	μ^1 Sagittarii	- -	79 59 62.3	53.8	62.2	56.2	59.6	58.1	58.70	32.9326	- - -	30.048
	19	λ Sagittarii	- -	84 24 60.5	52.8	62.3	57.5	57.3	56.9	57.88	33.8418	- - -	30.048
28	20	Mercury, N.	- -	47 39 62.0	50.0	60.8	54.5	58.8	58.7	57.47	30.1975	- - -	30.102
	21	Mercury, S.	- -	- - - -	- -	-	- -	- -	- -	- -	30.0943	- - -	- -
	22	Nadir	- -	199 59 61.3	49.8	61.3	54.8	55.5	58.9	56.93	30.6011	30.6482	- -
	23	"	- -	61.6	49.4	61.4	54.7	55.8	59.0	56.98	- - -	- - -	- -
	24	α Ursæ Majoris	- -	356 19 60.1	50.6	62.7	55 3	57.0	57.2	57.15	29.6698	- - -	30.888
	25	α Canis Majoris	- -	75 24 62.3	51.5	63.6	57.2	57.9	56.9	58.23	32.2724	- - -	29.990
29	26	α Canis Minoris	- -	53 14 63.3	50.7	61.1	55.8	58.2	57.3	57.73	28.6598	30.6555	29.977
	27	Venus, S.	- -	44 19 60.7	50.1	59.9	53.4	55.9	56.8	56.13	31.0886	- -	29.977
	28	Venus, N.	- -	- - -	- -	- -	- -	- -	- -	- -	31.9395	- - -	- -
	29	Sun, S.	-	40 29 62.2	50.7	60.8	55.5	58.3	60.2	57.95	29.1664	- - -	29.958
	30	Sun, N.	- -	39 59 61.2	50.5	59.7	53.3	58 5	58.4	56.93	30.6268	- - -	29.958
	31	Nadir	- -	199 59 61.7	49.4	60.9	55.7	56.9	57.2	56.97	30.6127	30.6550	- -
	32	"	- -	61.5	49.6	61.1	55.8	58.8	58.6	57.57	- - -	- - -	- -
	33	Venus, N.	- -	44 19 60.8	52.0	61.1	53.8	56.0	56.5	56.70	32.8074	- - -	29.698
	34	Venus, S.	- -	- - - -	- -	- -	- -	- -	-	- -	32.0408	- -	- -
30	35	Sun, N.	- -	40 14 61.5	53.2	63.2	56.7	58.6	60.5	58.95	31.1282	- - -	29.699
	36	Sun, S.	-	40 44 62.5	53.6	62.2	57.2	58.8	62.2	59.42	29.5392	- - -	29.698
	37	Nadir	- -	199 59 63.2	54.9	62.9	55.9	57.8	60.1	59.13	30.6258	30.6327	
	38	"	- -	63.3	54.8	63.2	60.2	57.5	60.2	59.87	- - -	- - -	- -
Aug. 1	39	Nadir	- -	199 59 62.5	52.9	63.4	57.7	57.2	59.5	58.87	30.5972	30.6144	- -
	40	"	- -	62.2	53.5	62.8	58.6	56.9	58.7	58.78	- - -	- - -	- -
2	41	Sun, S.	- -	41 29 63.3	56.8	66.2	60.2	61.6	60.5	61.43	29.2440	- - -	-
	42	Sun, N.	- -	40 59 61.5	54.8	64.7	57.3	57.9	60.1	59.38	30.7242	- - -	30.158
	43	Nadir	- -	199 59 62.1	54.4	63.3	58.2	56.2	59.5	58.95	30.5974	30.6127	- -
	44	"	- -	199 59 61.9	53.7	63.5	58.1	56.5	59.2	58.82	30.5840	30.6012	- -
	45	"	- -	61.8	53.8	63.6	58.1	56.8	58.9	58.83	- - -	- - -	- -
	46	α Ophiuchi	- -	46 14 60.5	53.8	62.8	55.8	57.2	55.2	57.55	33.7404	- - -	30.123
	47	δ Ursæ Minoris	- -	332 14 62.3	54.4	65.0	59.1	59.2	57.2	59.53	27.5510 27.2220	- - -	30.118
	48	δ Ursæ Minoris	- -	61.8	54.4	64.8	59.4	58.8	56.9	59.28	27.1180 27.2410	- - -	- -
3	49	Nadir	- -	199 59 62.2	59.2	63.0	61.4	60.1	60.2	61.02	27.5920 30.6412	- - -	- -
	50	"	- -	62.2	59.0	63.2	61.4	60.4	60.1	61.05	- - -	30.6238	- -
	51	ε Scorpii	- -	92 54 62.3	60.8	62.9	62.0	59.9	59.4	61.22	33.5730	- - -	29.985
	52	υ Scorpii	- -	95 59 60.4	59.1	62.4	60.7	59.3	57.7	59.93	30.2438	- - -	29.982
	53	λ Scorpii	-	- - - -	- -	- -	- -	- -	- -	- -	40.6340	- - -	- -
	54	Melpomene	- -	70 44 61.8	60.6	63.9	62.5	61.3	60.5	61.77	31.7558	- - -	29.987
	55	μ Sagittarii	- -	79 59 62.2	60.8	65.4	61.4	61.8	59.3	61.82	32.9805	- - -	29.985
	56	α Lyræ	- -	20 14 62.2	60.5	64.4	62.9	61.8	58.1	61.62	31.1404	- - -	29.983
5	57	Venus, S.	- -	44 4 61.4	60.0	61.7	64.2	61.8	57.3	61.07	32.0206	- - -	29.927
	58	Venus, N.	- -	- - -	- -	- -	- -	- -	- -	- -	32.8540	- - -	- -
6	59	Nadir	- -	199 59 59.8	56.6	60.2	59.9	58.8	57.2	58.75	30.6012	30.6193	- -
	60	"	- -	60.1	56.8	60.4	59.9	58.7	56.9	58.80	- -	- - -	- -
	61	Nadir	- -	199 59 59.2	55.6	58.8	55.0	57.7	57.4	57.28	30.6068	30.6485	- -
	62	"	- -	59.2	55.4	58.9	55.4	57.8	57.2	57.32	- - -	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	84.0	81.0	- - -	- - -	- - - -	- - -	- - -	C.F.	
2	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
3	82.0	84.0	- -	- -	+ 23.10	+ 22.53	45 10 42.85	+13 43 0.73	-		
4	- -	- -	- -	- -	+ 14.61	+ 22.37	45 10 34.20				
5	82.9	84.8	85.0	- -	+ 58.70	— 23.86	356 20 32.32	+62 33 6.93	+29.48		
6	80.0	84.0	81.0	- -	— 1 33.01	+ 17.06	40 3 41.40	+19 5 45.73	- - -		6. Chronograph out of repair, failed to record the transit.
7	- -	- -	- -	- -	— 3 12.86	+ 16.57	39 32 5.64				
8	81.2	84.1	83.0	- -	— 2 3.64	+ 24.20	47 3 18.61	+11 50 16.35	- - -		
9	- -	- -	- -	- -	— 1 55.24	+ 24.39	47 3 27.20				
10	- -	- -	- -	- -	- - -	- - -	- -	- - - -	- - -		
11	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
12	- -	- -	80.0	80.0	- - -	- - -	- - - -	- - - -	- - -		
13	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
14	80.0	74.1	- -	- -	— 48.81	+ 1 17.44	74 25 25.43	—15 31 46.18	+ 9.70		14. Observed without perforated cap on object-glass.
15	79.2	72.9	- -	- -	— 57.05	+ 1 10.05	71 35 9.25	—12 41 30.00	+ 6.76		
16	78.2	72.2	79.0	- -	+ 5 40.07	—49 28.57	81 11 6.57	—22 33 23.11	- - -		
17	77.8	72.2	- -	- -	+ 2 43.21	—49 41.02	81 42 58.16				17. Applied +0″.59 for defective illumination of South Limb. The circle reading is increased 5′.
18	77.4	71.8	79.0	- -	— 2 24.98	+ 1 36.24	79 59 9.96	—21 5 30.71	— 2.72		
19	77.0	71.5	- -	- -	— 3 21.82	+ 1 55.82	84 23 31.88	—25 29 52.63	— 5.00		
20	81.6	84.2	83.0	- -	+ 28.42	+ 24.88	47 40 50.77	+11 12 45.18	- - -		
21	- -	- -	- -	- -	+ 34.83	+ 25.08	47 40 57.38				
22	- -	- -	85.0	84.0	- -	- - -	- - - -	- - - -	- - -		
23	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
24	81.9	84.5	84.0	- -	+ 1 1.44	— 23.91	356 20 34.68	+62 33 4.57	+30.40		
25	79.4	81.9	81.0	- -	— 1 41.68	+ 1 16.20	75 24 32.75	—16 30 53.50	+ 4.80		
26	80.8	83.2	- -	- -	+ 2 5.29	+ 35.79	53 17 38.81	+ 5 36 0.44	+16.78		
27	81.0	84.2	- -	82.0	— 27.13	+ 14.24	44 19 43.24	+14 34 23.46	- - -		
28	- -	- -	- -	- -	— 1 20.62	+ 12.83	44 18 48.34				
29	82.3	84.2	82.0	82.0	+ 1 34.55	+ 17.44	40 31 49.94	+18 37 36.49	- -		
30	82.5	84.9	83.0	82.0	+ 1.73	+ 16.92	40 0 15.58				
31	- -	- -	85.0	82.0	- -	- - -	- - -	- - - -	- - -		
32	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
33	79.2	81.2	- -	80.0	— 2 16.56	+ 12.83	44 17 52.97	+14 35 21.60	- - -		33. Some passing clouds.
34	- -	- -	- -	-	— 1 28.36	+ 13.99	44 18 42.33				
35	81.2	84.8	- -	- -	— 30.37	+ 16.97	40 14 45.55	+18 23 4.24	- - -		
36	81.3	84.8	83.0	82.0	+ 1 7.59	+ 17.47	40 46 24.48				
37	- -	- -	84.0	82.0	- - -	- - -	- - - -	- - - -	- - -		
38	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
39	- -	- -	76.0	77.0	- - -	- - -	- - -	- - - -	- - -		
40	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
41	72.9	72.8	75.0	-	+ 1 26.65	+ 19.00	41 31 47.08	+17 37 40.34	- - -		
42	73.0	73.1	75.0	75.0	— 7.11	+ 18.47	41 0 10.74				
43	- -	- -	77.0	-	- - -	- - -	- - - -	- - - -	- - -		
44	- -	- -	75.0	76.0	- - -	- - -	- - - -	- - - -	- - -		
45	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
46	72.0	63.8	- -	- -	— 2 13.90	+ 28.02	46 13 11.67	+12 40 27.58	— 2.10		46. Micrometer reading increased 1 rev.
47	71.5	62.8	70.0	71.0	- - -	- - -	- - - -	- - - -	- - -		
48	- -	- -	- -	- -	+ 3 37.99	— 1 2.65	332 17 34.74	+86 36 4.51	—16.33		
49	- -	- -	75.0	75.0	- - -	- -	- - - -	- - - -	- - -		
50	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
51	73.7	69.0	71.0	- -	— 3 5.01	+ 2 59.51	92 54 55.72	—34 1 16.47	+19.56		
52	72.8	69.6	70.0	- -	+ 24.00	+ 3 40.37	96 4 4.30	—37 10 25.05	+11.55		
53	- -	- -	- -	- -	—10 28.22	+ 3 37.54	95 53 9.25	—36 59 30.00	+10.85		
54	72.2	69.8	70.0	72.0	— 1 11.08	+ 1 9.14	70 44 59.83	—11 51 20.58	- - -		54. Not corrected for parallax.
55	71.8	69.0	70.0	- -	— 2 27.92	+ 1 36.59	79 59 10.49	—21 5 31.24	— 2.62		
56	71.5	68.0	70.0	72.0	— 31.11	+ 0.24	20 14 30.78	+38 39 8.47	—18.65		
57	69.2	70.0	- -	72.0	— 1 27.96	+ 14.46	44 3 47.57	+14 50 18 00	- - -		
58	- -	- -	- -	- -	— 2 20.32	+ 14.18	44 2 54.93				
59	- -	- -	72.0	72.0	- - -	- - -	- - - -	- - - -	- -		
60	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
61	- -	- -	74.0	74 0	- - -	- - -	- - -	- - - -	- - -		61. East Sidereal Clock slow of chronograph 2 comp. by ear 1m. 20s.
62	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Aug. 6	1	α Herculis	- -	44 19 59.3	56.7	59.8	54.6	59.9	55.0	57.55	31.2426	- - -	29.953
	2	Melpomene	- -	71 4 59.5	56.8	59.7	56.8	59.9	57.8	58.42	29.7845	- - -	29.994
	3	α Canis Majoris	- -	75 24 59.2	57.8	62.5	57.2	59.9	55.4	58.67	32.3188	- - -	30.002
7	4	ε Canis Majoris	- -	87 39 60.8	59.0	61.4	58.2	60.2	56.7	59.38	32.7957	- - -	30.002
	5	Venus, N.	- -	43 59 60.3	57.9	60.5	58.2	59.8	58.4	59.18	30.9710	- - -	- -
	6	Venus, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	30.1458	- - -	- -
	7	α Canis Minoris	-	53 14 61.4	58.1	62.9	58.3	61.0	57.7	59.90	28.7162	- - -	30.001
	8	Nadir	-	199 59 62.3	59.7	62.8	61.2	62.2	60.4	61.43	30.6447	30.6204	- -
	9	"	-	62.2	59.8	62.9	61.2	62.3	60.5	61.48	- - -	- - -	- -
11	10	Venus, S.	- -	43 44 61.4	59.2	61.8	60.4	61.7	58.2	60.45	32.2540	- - -	30.221
	11	Venus, N.	- -	- - - -	- -	- -	- -	- -	- -	- -	33.0458	- - -	-
	12	Nadir	-	199 59 61.8	60.5	63.8	61.8	63.2	60.0	61.85	30.6495	30.6189	- -
	13	"	-	61.6	60.7	63.9	62.0	63.1	60.1	61.90	- - -	- - -	- -
12	14	Nadir	-	199 59 61.5	59.5	64.1	60.7	62.5	60.2	61.42	30.6361	30.6124	- -
	15	"	-	61.6	59.8	64.2	60.5	62.6	59.9	61.43	- - -	- - -	- -
	16	α Herculis	- -	44 19 61.5	60.2	62.7	59.9	62.3	58.8	60.90	31.2928	- - -	30.205
	17	α Ophiuchi	-	46 14 60.0	58.8	61.9	58.3	62.2	57.6	59.80	32.7930	- - -	30.205
	18	Melpomene	- -	71 49 61.9	61.4	62.7	60.8	63.2	60.0	61.67	30.3226	- -	30.204
	19	μ^1 Sagittarii	- -	79 59 61.2	60.2	63.9	59.9	62.7	58.3	61.03	33.0015	- - -	- -
	20	δ Ursæ Minoris	- -	332 19 61.4	60.4	65.9	62.3	64.8	59.3	62.35	33.3660	- - -	30.202
13	21	Venus, N.	- -	43 39 62.2	62.3	64.8	63.2	64.7	61.1	63.05	31.7704	- - -	30.262
	22	Venus, S.	-	- - - -	- -	- -	- -	- -	- -	- -	31.0438	- - -	- -
	23	Nadir	- -	199 59 62.7	60.9	64.7	63.5	62.9	60.9	62.60	30.6695	30.6271	- -
	24	"	- -	62.6	61.1	64.8	63.7	62.9	60.8	62.65	- - -	- - -	- -
14	25	Nadir	- -	199 59 63.8	62.2	66.4	64.0	64.5	62.5	63.90	30.7069	30.6442	- -
	26	"	- -	64.0	62.2	66.6	63.9	64.7	62.5	63.98	- - -	- - -	- -
	27	Venus, N.	- -	43 34 60.8	58.8	61.1	59.2	59.9	57.3	59.52	29.6792	- - -	30.178
	28	Venus, S.	- -	- - - -	- -	- -	- -	- -	- -	- -	30.4318	- - -	- -
	29	α Canis Minoris	- -	53 14 59.5	57.8	62.6	57.4	60.8	59.0	59.52	28.7282	- - -	30.178
	30	Anonymous	- -	72 4 60.5	59.8	61.6	57.7	65.5	58.8	60.65	28.6630	- - -	30.067
	31	Melpomene	- -	- - - -	- -	- -	-	- -	- -	- -	30.3533	- - -	- -
	32	δ Ursæ Minoris	-	337 14 60.6	58.8	64.5	58.2	64.4	58.2	60.78	27.2480	- - -	30.067
	33	Nadir	- -	199 59 61.1	60.1	62.5	58.9	61.7	59.9	60.70	30.6706	30.6589	- -
26	34	α Herculis	- -	44 19 59.9	53.2	57.9	55.1	59.7	56.7	57.08	34.2404	- - -	29.804
	35	Nadir	- -	199 59 59.1	53.8	57.9	57.0	58.2	57.9	57.32	30.6270	30.6683	-
	36	"	- -	59.2	53.7	58.2	56.9	58.2	57.9	57.35	- - -	- - -	- -
	37	μ^1 Sagittarii	- -	79 59 59.9	55.8	61.4	56.6	59.9	56.7	58.38	32.8899	- - -	29.830
	38	δ Ursæ Minoris	-	332 14 59.2	51.1	58.6	55.1	60.0	54.4	56.40	27.2454	- - -	29.828
	39	α Aquilæ	- -	50 19 60.0	54.9	58.7	56.4	62.0	57.3	58.22	26.7404	- - -	- -
30	40	δ Ursæ Minoris	- -	332 14 61.8	56.6	63.9	57.8	63.7	57.9	60.28	27.3882	- - -	30.208
	41	Nadir	- -	199 59 61.7	56.8	61.4	58.5	60.8	57.9	59.52	30.7540	30.7616	- -
	42	"	- -	61.8	56.9	61.6	58.5	60.6	58.0	59.57	- - -	- - -	- -
31	43	α Lyræ	- -	20 14 61.9	58.0	63.7	58.6	65.8	58.6	61.10	31.2898	- - -	30.178
	44	Œltzen Arg. 18916	- -	80 49 61.9	60.0	64.7	58.4	64.5	58.2	61.28	27.5306	- - -	30.163
	45	B.A.C. 6507	- -	- - - -	-	- -	- -	-	- -	- -	31.5992	-	- -
	46	Anonymous	- -	79 34 60.8	60.8	64.2	59.2	65.4	59.5	61.65	34.2548	- - -	- -
	47	Lalande, 36878	- -	- - - -	- -	- -	- -	-	-	- -	30.2712	-	- -
	48	Lalande, 37221	- -	81 14 61.6	59.2	63.5	58.8	65.1	58.5	61.12	30.1762	-	30.162
	49	Lalande, 37873	-	- - - -	- -	- -	- -	- -	- -	- -	28.3284	- -	30.162
	50	Lalande, 38164	- -	78 29 61.4	61.8	66.2	61.9	67.5	60.8	63.27	38.4018	- - -	- -
	51	α^2 Capricorni	-	71 54 60.9	60.8	64.5	61.8	65.8	60.1	62.32	33.3768	- - -	30.162
	52	Nadir	- -	199 59 62.0	60.1	64.4	62.2	63.6	60.7	62.17	30.8043	- - -	-
	53	"	-	62.2	60.3	64.6	62.3	63.6	60.7	62.28	- - -	30.7698	- -
Sept. 1	54	α Lyræ	- -	20 14 61.5	57.4	61.9	57.8	64.2	58.1	60.15	31.2792	30.7913	30.118
	55	Œltzen Arg. 18916	- -	80 49 62.0	59.1	63.1	58.5	64.9	60.4	61.33	27.4962	- - -	- -
	56	B.A.C. 6507	- -	- - - -	- -	- -	- -	- -	- -	- -	31.5872	- - -	- -
	57	B.A.C. 6548	- -	80 9 61.4	59.2	62.8	58.8	63.8	59.2	60.87	33.4042	- - -	30.110
	58	G. C. 8840	- -	- - - -	- -	- -	- -	- -	- -	- -	29.1122	- - -	-
	59	G. C. 9030	- -	79 44 62.2	60.8	64.4	59.9	67.2	60.1	62.43	30.8710	- - -	30.108
	60	Lalande, 38290	- -	78 4 62.5	60.3	64.2	60.2	65.9	59.3	62.07	32.4812	- - -	30.099
	61	Nadir	- -	199 59 60.8	56.5	61.0	58.8	62.2	59.4	59.78	30.7874	30.7913	- -
	62	"	- -	60.5	56.5	61.1	59.1	62.4	59.4	59.83	- -	- - -	- -
2	63	Anonymous	- -	80 29 60.9	58.2	62.1	57.0	64.8	59.1	60.35	29.9262	30.7664	30.038
	64	G. C. 1719	- -	79 49 61.8	58.7	62.2	56.8	64.3	59.4	60.53	33.5762	- - -	30.042

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	72.8	66.0	- -	73.0	— 36.94	+ 25.45	44 19 46.06	+14 33 53.19	— 0.26	C. F.	
2	71.2	65.8	70.0	72.0	+ 52.42	+ 1 9.79	71 7 0.63	—12 13 21.38	- - -		2. Indistinct. Not corrected for parallax.
3	70.1	69.9	71.0	72.0	— 1 46.43	+ 1 20.94	75 24 33.18	—16 30 53.93	+ 3.07		
4	70.5	69.9	72.0	- -	— 2 16.59	+ 2 15.09	87 39 57.88	—28 46 18.63	+ 1.34		
5	- -	72.2	- -	- -	— 22.02	+ 14.39	43 59 51.55	+14 53 21.65	- -		
6	- -	- -	- -	- -	+ 29.88	+ 14.59	44 0 43.65				
7	71.2	71.1	- -	- -	+ 1 59.54	+ 36.64	53 17 36.08	+ 5 36 3.17	+16.07		
8	- -	- -	74.0	73.0	- - -	- - -	- - - -	- - - -	- - -		
9	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
10	72.1	75.3	73.0	- -	— 1 42.47	+ 14.86	43 43 32.84	+15 10 31.37	- - -		
11	- -	- -	- -	-	— 2 32.30	+ 14.77	43 42 42.92				
12	- -	- -	74.0	74.0	- - -	- -	- - - -	- - - -	- -		12. Tremulous.
13	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
14	- -	- -	73.0	76.0	- - -	- - -	- - - -	- - - -	- - -		
15	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
16	72.2	68.0	72.0	- -	— 42.53	+ 25.57	44 19 43.94	+14 33 55.31	— 0.83		
17	72.8	67.4	71.0	- -	— 2 16.92	+ 27.88	46 13 10.76	+12 40 28.49	— 3.44		
18	72.2	66.3	70.0	72.0	+ 18.36	+ 1 12.09	71 51 32.12	—12 57 52.87	- - -		
19	71.4	65.7	- -	72.0	— 2 30.57	+ 1 37.91	79 59 8.37	—21 5 29.12	— 2.50		
20	70.9	64.9	69.0	- -	— 2 52.65	— 1 2.49	332 16 7.21	+86 37 32.04	—19.65		
21	69.9	73.6	72.0	- -	— 1 11.79	+ 15.14	43 39 6.40	+15 14 10.01	- - -		
22	- -	- -	- -	- -	— 26.13	+ 15.17	43 39 52.09				
23	- -	- -	74.0	74.0	- -	- -	- - - -	- - - -	- - -		
24	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
25	- -	- -	72.0	73.0	- - -	- - -	- - - -	- - - -	- - -		25. Planet and stars tremulous.
26	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
27	70.1	73.9	73.0	-	+ 59.34	+ 15.17	43 36 14.03	+15 17 48.15	- - -		27. Tremulous.
28	- -	- -	- -	- -	+ 13.51	+ 15.15	43 35 28.18				
29	70.5	74.1	- -	- -	+ 2 0.25	+ 36.67	53 17 36.44	+ 5 36 2.81	+15.71		
30	75.2	67.9	- -	- -	+ 2 5.33	+ 1 12.24	72 8 18.22	—13 14 38.97	+ 2.01		
31	- -	- -	- -	- -	+ 19.36	+ 1 12.08	72 6 32.09	—13 12 52.84	- - -		
32	73.1	67.3	73.0	-	+ 3 34.26	— 1 1.86	332 17 33.18	+86 36 6.07	—19.00		
33	- -	- -	73.0	- -	- - -	- - -	- - - -	- - - -	- - -		
34	79.1	77.9	79.0	- -	— 35.76	+ 24.75	44 19 46.07	+14 33 53.18	— 1.69		
35	- -	- -	79.0	78.0	- - -	- - -	- - - -	- - - -	- - -		35. Clear night. Stars tremulous. Some wind.
36	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
37	79.0	76.3	78.0	- -	— 2 20.11	+ 1 34.73	79 59 13.00	—21 5 33.75	— 2.21		
38	78.9	76.0	78.0	- -	+ 3 35.01	— 1 0.35	332 17 31.06	+86 36 8.19	—21.13		
39	77.9	75.2	77.0	- -	+ 4 6.56	+ 32.32	50 24 37.10	+ 8 29 2.15	—30.64		
40	71.6	66.0	70.0	72.0	+ 3 31.93	— 1 2.32	332 17 29.89	+86 36 9.36	—21.49		
41	- -	- -	- -	- -	- - -	- - -	- -	- - - -	- -		
42	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
43	65.6	73.8	- -	73.0	— 32.46	+ 0.25	20 14 28.89	+38 39 10.36	—23.58		
44	72.2	64.8	70.0	72.0	+ 3 23.46	+ 1 41.92	80 55 6.66	—22 1 27.41	—11.78		
45	-	- -	- -	-	— 51.97	+ 1 41.39	80 50 50.70	—21 57 11.45	—12.91		
46	70.3	64.1	69.0	71.0	— 3 38.58	+ 1 36.39	79 32 59.46	—20 39 20.21	—17.98		
47	- -	- -	- -	- -	+ 31.46	+ 1 36.66	79 37 9.77	—20 43 30.52	—19.24		
48	69.8	63.7	70.0	69.0	+ 37.37	+ 1 43.62	81 17 22.11	—22 23 42.86	—20.34		
49	68.9	63.2	- -	-	+ 2 33.49	+ 1 43.73	81 19 18.34	—22 25 39.09	—24.25		
50	- -	63.1	68.0	- -	— 7 58.85	+ 1 32.31	78 23 36.73	—19 29 57.48	—25.64		
51	68.1	62.4	68.0	70.0	— 2 43.83	+ 1 12.63	71 53 31.12	—12 59 51.87	—30.36		
52	- -	- -	69.0	72.0	- -	- - -	- - - -	- - - -	- - -		52. Night fair. Moon bright. Stars tremulous.
53	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	-		
54	75.4	70.6	74.0	- -	— 30.45	+ 0.25	20 14 29.95	+38 39 9.30	—23.69		
55	- -	- -	- -	- -	+ 3 26.98	+ 1 40.45	80 55 8.76	—22 1 29.51	—11.75		
56	74.8	70.2	- -	- -	— 49.86	+ 1 40.16	80 50 51.63	—21 57 12.38	—12.88		
57	74.2	69.7	- -	-	— 3 43.82	+ 1 37.41	80 7 54.46	—21 14 15.21	—14.19		
58	- -	- -	- -	- -	+ 1 45.46	+ 1 37.76	80 13 24.09	—21 19 44.84	—15.78		
59	73.8	69.3	72.0	- -	— 5.06	+ 1 36.10	79 46 33.47	—20 52 54.22	—20.79		
60	72.8	67.9	72.0	73.0	— 1 45.91	+ 1 30.15	78 4 46.31	—19 11 7.06	—26.33		
61	- -	- -	74.0	73.0	- - -	- -	- - - -	- - - -	- - -		61. Stars slightly tremulous.
62	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
63	76.3	69.9	75.0	- -	+ 52.70	+ 1 38.74	80 32 31.79	—21 38 52.54	—13.43		
64	76.2	71.2	74.0	75.0	— 2 56.26	+ 1 33.50	79 48 37.77	—20 54 58.52	—10.14		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Sept. 2	1	γ Aquilæ	- -	48 39 60.0	53.2	59.8	55.9	64.3	58.8	58.67	33.0494	- - -	30.038
	2	Nadir	- -	199 59 62.9	62.8	58.0	58.4	62.3	61.0	60 90	30.7800	30.7664	- -
22	3	β Aquilæ	- -	52 49 59.8	59.4	62.4	59.8	62.8	59.1	60.55	30.4128	- - -	30.209
	4	Nadir	- -	199 59 60.8	59.5	62.0	59.2	63.5	59.8	60.80	30.7831	30.7704	- -
	5	"	- -	60.8	59.3	62.6	59.4	63.3	59.9	60.88	- - -	- - -	- -
	6	ζ Cygni	- -	29 14 57.9	58.8	61.5	59.1	64.8	58.7	60.47	29.9322	- - -	30.241
	7	ε Pegasi	- -	49 39 60.7	60.0	62.5	60.1	65.4	60.1	61.47	29.9181	- - -	30.230
	8	Anonymous	- -	80 19 60.2	62.7	63.3	61.9	65.4	60.2	62.28	31.3634	- - -	30.230
	9	Anonymous	- -	- - - -	- -	- -	- -	-	- -	- -	32.5444	- - -	- -
27	10	α Cygni	- -	14 9 60.5	59.5	62.9	58.5	62.3	57.4	60.18	32.5096	- - -	30.070
	11	61 Cygni	- -	20 49 60.3	58.9	60.5	60.0	62.1	57.3	59 85	29.0508	- - -	- -
	12	β Aquarii	-	65 4 59.4	55.5	59.7	57.1	60.8	55.4	57.98	30.1120	- - -	30.075
	13	Nadir	- -	199 59 59.7	58 8	61.9	59.4	60.8	57.9	59.75	30.7846	30.7866	- -
	14	"	- -	60.0	58.3	62.1	60.0	61.8	58.3	60.08	- - -	- - -	- -
29	15	Nadir	-	199 59 60.5	56.3	60.6	58.3	59.9	55.9	58.50	30.7536	30.7757	- -
	16	"	- -	60.5	56.8	60.7	58.2	60.1	56.3	58.77	- - -	- - -	-
	17	ζ Cygni	- -	29 14 60.6	57.3	60.9	58.8	62.9	56.2	59.45	29.9426	- - -	30.165
	18	β Aquarii	- -	65 4 60.9	56.7	60.7	58.9	61.3	55.2	58.95	30.1450	- - -	30.169
	19	ε Pegasi	- -	49 39 59.9	56.2	61.2	58.1	62.8	57.6	59.30	29.8882	- -	30.169
	20	λ Piscis Australis	-	87 24 59.8	57.5	60.6	58.9	60.8	55.6	59.20	34.4784	- - -	30.170
Oct. 1	21	Anonymous	- -	79 29 59.0	59.9	61.2	60.1	63.2	56.8	60.03	31.1890	- - -	30.303
	22	B.A.C. 6850	-	81 29 60.4	59.4	60.0	60.9	62.5	55.8	59.83	32.3900	- - -	30.303
	23	Nadir	- -	199 59 59.4	57.9	62.5	61.7	61.5	57.6	60.10	30.7624	30.7552	- -
	24	"	- -	59.6	60.3	61.7	62.5	62.8	58.3	60.87	- - -	- - -	- -
	25	ζ Pegasi	- -	48 49 60.9	60.2	62.5	62.4	63.2	58.9	61.68	31.5138	- - -	30.324
2	26	Lalande, 37507	- -	80 44 58.8	58.1	60.1	59.6	61.2	57.0	59.13	31.1650	- - -	30.305
	27	Nadir	- -	199 59 60.2	56.8	62.2	60.5	61.8	57.2	59.78	30.7649	30.7691	- -
	28	"	- -	59.7	57.0	62.0	60.5	61.9	57.4	59.75	- - -	- - -	- -
	29	α Aquarii	- -	59 54 60.1	56.1	60.9	60.2	60 5	57.4	59.20	30.9234	- - -	30.299
	30	Neptune	-	67 49 60.2	56.8	62.1	62.2	61 9	58.8	60.33	36.1358	- - -	30.295
4	31	Mercury, S.	-	58 29 56.9	57.0	58.5	58.3	61.0	56.3	58.00	33.0540	- - -	29.965
	32	Mercury, N.	-	- - - -	- -	- -	- -	- -	- -	- -	32.9615	- - -	- -
5	33	Sun, N.	- -	63 34 60.3	56.4	59.9	58.0	60.2	55.5	58.38	30.3166	- - -	29.962
	34	Sun, S.	- -	64 9 58.9	56.7	60.2	57.9	61.3	55.5	58.42	32.9585	- - -	29.962
	35										29.5890	- - -	- -
	36										29.5910	- - -	- -
	37	Polaris		327 24 59.2	57.3	62.2	58.2	63.7	55.8	59.40	29.6190	- - -	29.939
	38										29.6030	- - -	-
	39										29.6010	- - -	- -
	40	Nadir	- -	199 59 59.9	57.9	62.8	59.6	62.0	59.2	60.23	30.7641	30.7602	- -
	41	"	- -	59.9	58.2	62.8	59.4	62.2	59.5	60.33	- - -	- - -	- -
	42	Nadir	- -	199 59 60.8	58.5	61.4	59.9	61.9	59.1	60.27	30.7105	30.7065	- -
	43	"	-	60 8	58.4	61.5	60.0	61.6	59.1	60.23	- - -	- -	- -
8	44	ε Leonis	- -	34 24 60.7	58.5	61.0	62.5	62.1	59.1	60.65	29.5142	30.8060	- -
	45	α Leonis	-	46 9 60.8	56.5	61.2	61.2	62.3	57.1	59.85	28.9114	- - -	29.982
	46	Venus, S.	- -	47 59 61.4	57.5	60.9	63.3	63.2	60.1	61.07	27.2312	-	29.980
	47	Venus, N.	-	- - - -	- -	- -	-	- -	- -	- -	27.5782	- -	- -
	48	Nadir	- -	199 59 60.2	54.3	61.0	59.9	58.9	57.5	58.63	30.7819	30.8060	- -
	49	"	-	60.2	54.8	59.5	59.1	59.5	57.5	58.43	- - -	- - -	-
11	50	Sun, S.	- -	65 19 61.3	55.9	61.2	58.4	59.5	56.0	58.72	- - -	- - -	30.149
	51	Nadir	- -	199 59 59.9	57.0	60.8	60.5	58.3	57.5	59.00	30.7579	30.7737	- -
	52	"	- -	59.9	57.1	60.9	60.8	58.5	57.3	59.08	- - -	-	- -
	53	α Piscis Australis	- -	89 19 59.2	55.8	58.8	57.2	56.2	54.9	57.02	35.1811	- - -	30.112
	54	B.A.C. 8177	- -	53 19 59.5	58.2	60.6	61.5	57.9	57.4	59.18	31.9128	- -	30.115
	55	Weisse XXIII, 458	- -	- - - -	- -	-	- -	- -	- -	- -	34.4364	- - -	-
12	56	Nadir	- -	199 59 60.0	55.8	60.5	57.6	59.5	58.4	58.63	30.7325	30.7545	- -
	57	"	- -	60.1	56.8	60.9	57.0	60.0	57.0	58 63	- -	- - -	- -
	58	α Piscis Australis	- -	89 19 59.6	55.6	59.1	60.4	58.6	54.0	57.88	35.1456	- - -	30.506
	59	B.A.C. 8288	- -	74 4 59.4	54.9	60.4	58.5	59.6	53.9	57.78	30.2256	- - -	30.400
	60	γ Pegasi	- -	44 29 57.6	53.3	59.2	58.7	56.9	50.3	56.00	29.4456	- - -	30.400
	61	α Cassiopeæ	-	3 9 58.7	53.7	61.0	59.8	58.1	51.0	57.55	30.5782	- - -	30.340
15	62	ζ Cygni	- -	29 14 56.5	53.7	58.4	58.4	58.6	50.5	56.02	29.9366	- - -	30.124
	63	ε Pegasi	- -	49 39 59.8	57.0	60.5	60.1	61.0	56.0	59.07	29.9280	- - -	30.124

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Objeet.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	76.1	71.7	74.0	75.0	− 2 23.11	+ 30.48	48 38 6.04	+10 15 33.21	−29.82	C.F.	
2	- -	- -	76.0	75.0	- - -	- - -	- - - -	- - - - -	- - -		2. Image indistinct.
3	68.0	61.1	68.9	-	+ 22.74	+ 36.98	52 51 0.27	+ 6 2 38.98	−30.21		
4	- -	- -	68.0	69.0	- - -	- - -	- - - -	- - - - -	- - -		4. Clear sky. Bright moon. Stars slightly tremulous.
5	- -	-	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
6	67.2	59.8	68.0	- -	+ 52.64	+ 9.39	29 16 2.50	+29 37 36.75	−48.02		6. Sept. 22 to Dec. 30, $r = 62''.850$.
7	64.0	58.8	65.0	- -	+ 53.45	+ 32.86	49 41 27.78	+ 9 12 11.47	−48.53		
8	64.0	58.5	66.0	67.0	− 37.09	+ 1 40.89	80 21 6.08	−21 27 26.83	−45.80		8. Very faint.
9	- -	-	- -	- -	− 1 51.38	+ 1 40.80	80 19 51.70	−21 26 12.45	−44.08		
10	67.7	57.5	66.0	- -	− 1 48.15	− 5.91	14 8 6.12	44 45 33.13	−46.87		
11	66.7	58.8	65.0	67.0	+ 1 49.12	+ 0.84	20 51 49.81	+38 1 49.44	−58.05		
12	65.9	58.8	65.0	- -	+ 42.47	+ 57.48	65 6 37.93	− 6 12 58.68	−43.89		
13	- -	- -	66.0	67.0	- - -	- - -	- - - -	- - - - -	- - -		
14	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- -		
15	- -	- -	66.0	67.0	- - -	- - -	- - - -	- - - - -	- - -		15. Clear sky, with harvest moon. Stars very tremulous.
16	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
17	64.9	53.3	62.0	66.0	+ 52 34	+ 9.49	29 16 1.28	+29 37 37.97	−49.00		
18	64.3	52.3	60.0	64.0	+ 39.73	+ 58.39	65 6 37.07	− 6 12 57.82	−43.85		
19	63.5	52.2	- -	- -	+ 55.72	+ 33.21	49 41 28.23	+ 9 12 11.02	−48.98		
20	62.2	51.6	58.0	- -	− 3 52.56	+ 2 18.91	87 23 25.55	−28 29 46.30	−43.97		
21	65.2	57.1	63.0	- -	− 27.14	+ 1 38.08	79 31 10.97	−20 37 31.72	−19.28		
22	63.3	56.4	63.0	63.0	− 1 42.57	+ 1 46.41	81 30 3.67	−22 36 24.42	−22.76		
23	- -	- -	67.0	64.0	- - -	- - -	- - - -	- - - - -	- - -		23. Clear sky. Slight mist. Stars a little tremulous.
24	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
25	61.5	51.0	61.0	- -	− 47.54	+ 32.31	48 49 46.45	+10 3 52.80	−54.40		
26	67.0	62.0	66.0	- -	− 24.84	+ 1 42.15	80 46 16.44	−21 52 37.19	−20 38		
27	- -	- -	68.0	68.0	- - -	- - -	- - - -	- - - - -	- -		
28	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
29	64.2	56.2	61.0	- -	− 9.75	+ 48.56	59 55 38.01	− 1 1 58.76	−49.22		29. Clear sky. No moon. Stars steady. Light mist.
30	62.8	55.4	62.0	63.0	− 5 37.20	+ 1 13.73	67 45 36.86	− 8 51 57.61	- - -		
31	68.0	68.0	- -	- -	− 2 24.13	+ 40.44	58 28 14.31	+ 0 25 22.06	- - -		
32	- -	- -	- -	- -	− 2 18.38	+ 40.45	58 28 20.07				
33	68.1	69.5	69.0	68.0	+ 28.98	+ 47.27	63 36 14.63	− 4 58 41.75	- - -		
34	69.8	69.3	69.0	68.0	− 2 19.36	+ 48.31	64 8 27.37				
35	- -	- -	- -	- -	- - -	- - -	- - - -	- - -	- - -		
36	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
37	68.9	69.1	69.0	69.0	+ 1 12.79	− 1 12.97	327 24 59.22	+88 31 19.97	−46.12		37. Slightly tremulous.
38	- -	- -	- -	- -	- - -	- - -	- - - -	- -	- - -		
39	- -	- -	- -	- -	-	- - -	- - - -	- - - -	- -		
40	- -	- -	70.0	- -	- - -	- - -	- - - -	- -	- - -		40. Mercury tremulous.
41	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
42	- -	- -	70.0	69.0	- - -	- - -	- - - -	- - - -	- - -		
43	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
44	68.0	- -	- -	71.0	+ 1 21.33	+ 14.40	34 26 36.38	+24 27 2.87	+38.53		
45	71.3	70.4	- -	71.0	+ 1 59.03	+ 27.52	46 12 26.40	+12 41 12.85	+37.37		45. Observation good. Nadir bad.
46	71.3	71.0	73.0	72.0	+ 3 44.82	+ 24.50	48 4 10.39	+10 49 40 12	- - -		
47	- -	- -	- -	- -	+ 3 22.96	+ 23.85	48 3 47.88				
48	- -	- -	75.0	74.0	- - -	- - -	- - - -	- - - - -	- - -		48. Nadir unsatisfactory. Mercury tremulous.
49	- -	- -	- -	- -	- - -	- -	- - - -	- - -	- - -		
50	69.8	67.9	70.0	72.0	- - -	- - -	- - - -	- - - - -	- - -		50. No micrometer reading.
51	- -	- -	72.0	- -	- - -	- - -	- - - -	- - - - -	- - -		
52	- -	- -	- -	- -	- - -	- - -	- - - -	- - - - -	- - -		
53	63.2	64.8	- -	- -	− 4 36.93	+ 2 28.69	89 17 48.78	−30 24 9.53	−46.49		
54	62.2	65.1	65.0	- -	− 1 11.64	+ 37.29	53 19 24.83	+ 5 34 14.42	−56.38		
55	- -	- -	- -	- -	− 3 50.03	+ 37.23	53 16 46.38	+ 5 36 52.87	−56.38		
56	- -	- -	70.0	70.0	- - -	- - -	- - - -	- - - -	- -		
57	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
58	68.0	64.3	66.3	69.0	− 4 35.88	+ 2 30.72	89 17 52.72	−30 24 13.47	−46.35		
59	67.5	63.5	66.0	69.0	+ 33.38	+ 1 19.17	74 6 50.33	−15 13 11.08	−52.60		
60	67.0	63.5	65.0	69.0	+ 1 22.43	+ 26.20	44 31 44.63	+14 21 54.62	−57.56		
61	67.0	62.2	65.0	69.0	+ 11.18	− 17.39	3 9 51.34	+55 43 47.91	−56.02		
62	60.0	47.0	56.0	59.0	+ 51.84	+ 9.59	29 15 57.45	+29 37 41.80	−50.42		
63	57.0	46.5	53.5	59.0	+ 52.38	+ 33 55	49 41 25.00	+ 9 12 14.25	−49.52		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Oct. 15	1	α Aquarii	- -	59 54 59.6	55.7	60.2	59.7	59.9	54.0	58.18	30.9530	- - -	30.124
	2	λ Piscis Australis		87 24 59.3	58.2	60.6	61.1	59.2	52.9	58.55	34.4854	- - -	30.124
	3	ζ Pegasi	- -	48 49 60.1	57.6	61.2	60.9	62.9	55.0	59.62	31.5400	- - -	30.125
	4	α Piscis Australis	- -	89 19 59.5	58.7	60.4	62.0	60.6	54.3	59.25	35.2678	- - -	30.125
	5	Nadir	- -	199 59 59.8	59.2	61.9	62.0	60.9	54.5	59.72	30.7616	30.7621	- -
	6	"	- -	60.0	59.1	62.7	63.6	60.7	55.6	60.28	- - -	- - -	- -
	7	α Andromedæ	- -	30 34 60.6	58.5	61.9	60.9	60.6	55.7	59.70	29.1012	- - -	30.136
	8	α Cassiopeæ	- -	3 9 60.0	58.1	62.2	62.1	60.7	53.8	59.48	30.6090	- - -	30.126
16	9	ε Pegasi	- -	49 39 59.7	58.6	62.0	61.8	59.6	56.9	59.77	29.9460	- - -	30.268
	10	λ Piscis Australis	- -	87 24 60.2	57.7	60.8	61.7	61.2	53.9	59.25	34.5162	- - -	30.276
	11	ζ Pegasi	- -	48 49 60.7	58.8	61.9	62.5	63.2	56.5	60.60	31.5608	- - -	30.276
	12	α Piscis Australis	- -	89 14 59.7	60.2	61.6	62.9	61.0	53.7	59.85	30.3624	- - -	30.276
	13	Nadir	- -	199 59 60.3	59.3	62.5	65.0	60.0	56.3	60.57	30.7505	30.7400	- -
	14	"	- -	60.0	60.3	62.9	65.5	60.5	55.6	60.80	- - -	- - -	- -
	15	Juno	- -	66 39 59.7	52.0	61.9	62.6	60.8	54.3	58.55	26.2734	- - -	30.300
	16	β Ceti	- -	77 39 60.1	59.7	62.5	65.1	62.4	53.9	60.62	30.4754	- - -	30.292
	17		I.	- - -	- -	- -	-	- -	- -	- -	32.2400	- - -	- -
	18		II.	- - -	- -	- -	- -	- -	- -	- -	32.2560	- -	- -
	19	Polaris	III.	330 24 61.7	59.2	64.2	65.9	60.7	54.4	61.02	32.2430	- - -	30.288
	20		IV.	- - -	- -	- -	- -	- -	- -	- -	32.2510	- - -	- -
	21		V.	- - -	-	- -	- -	- -	- -	- -	32.2550	- - -	- -
19	22	61 Cygni	- -	20 49 60.1	61.5	61.9	62.1	66.0	51.5	61.52	29.1288	30.7924	30.168
	23	ζ Cygni	- -	29 14 60.2	61.2	62.9	61.8	67.3	56.8	61.70	30.4920	- - -	30.168
	24	β Aquarii	- -	65 4 60.3	59.8	62.0	61.3	63.9	56.9	60.70	30.1840	- -	30.168
	25	Anonymous	- -	80 19 59.8	63.2	63.1	62.8	66.0	57.5	62.07	31.1625	- - -	30.170
	26	Anonymous	- -	- - - -	- -	- -	- -	- -	- -	- -	32.5718	- - -	30.170
	27	Lalande, 43288	- -	77 39 59.8	62.0	63.1	61.8	65.9	57.2	61.63	33.3536	- - -	30.170
	28	Weisse XXII, 640	- -	73 44 57.8	57.7	61.3	60.9	63.2	52.9	58.97	33.7690	- - -	30.171
	29	Weisse XXII, 644	- -	- - - -	- -	-	-	- -	- -	- -	33.4170	- - -	-
	30	Weisse XXII, 1150	- -	70 59 58.5	61.2	62.2	62.6	65.8	57.0	61.22	32.1350	- - -	30.185
	31	Weisse XXII, 1156	- -	- - - -	- -	- -	- -	- -	- -	- -	34.8117	- - -	- -
	32	Nadir	-	199 59 60.2	59.9	62.7	63.8	62.0	58.4	61.17	30.1231	30.1029	- -
	33	"	- -	60.7	60.2	62.2	63.9	61.8	58.5	61.22	- - -	- - -	- -
	34		I.	- - - -	- -	- -	- -	-	- -	- -	29.3960	- - -	- -
	35		II.	- - - -	- -	- -	-	- -	- -	- -	29.4100	- - -	- -
	36	Polaris, S. P.	III.	327 24 59.8	53.4	61.0	58.2	61.5	54.0	57.98	29.3980	- - -	30.302
	37		IV.	- - - -	- -	- -	- -	- -	- -	- -	29.4070	- - -	- -
	38		V.	- - -	- -	- -	- -	- -	- -	- -	29.4020	- - -	- -
20	39	ε Pegasi	- -	49 39 59.1	56.2	58.6	62.0	63.8	56.5	59.37	30.3936	30.7485	30.248
	40	Lalande, 43288	- -	77 39 60.2	57.2	60.2	62.3	63.5	55.3	59.78	33.4088	- - -	30.218
	41	Anonymous	- -	74 9 60.2	56.6	61.3	62.8	56.5	53.9	58.55	29.3728	- - -	30.218
	42	ζ Pegasi	- -	48 49 59.8	57.4	60.5	61.5	63.7	55.8	59.78	31.5678	- - -	30.210
	43	α Piscis Australis	- -	89 14 59.7	58.7	60.3	62.5	61.4	54.0	59.43	30.5540	- - -	30.216
	44	ι Piscium	- -	54 4 59.2	58.0	60.6	62.0	62.9	53.3	59.33	32.4836	- - -	30.210
	45	Juno	- -	67 39 59.7	58.7	63.0	65.0	64.4	55.4	61.03	29.7412	- - -	30.210
	46	51 Piscium	- -	52 44 59.0	57.6	61.3	65.8	62.4	55.4	60.25	31.2984	- - -	30.188
	47	Polaris	- -	330 24 59.8	58.2	64.2	65.9	61.3	55.9	60.88	- - -	- - -	30.184
	48	Nadir	- -	199 59 60.0	59.5	62.6	66.8	60.4	55.3	60.77	30.7639	30.7485	- -
	49	"	- -	60.7	59.6	63.3	66.1	60.0	56.9	61.10	- -	- - -	- -
	50	α Arietis	- -	36 9 60.3	59.3	62.2	66.6	62.5	54.3	60.87	33.1682	- - -	30.194
	51	Venus, N.	- -	51 54 58.9	60.6	62.8	64.7	62.9	57.2	61.18	33.6498	- - -	30.178
	52	Venus, S.	- -	- - - -	- -	- -	-	- -	- -		33.2993	- - -	- -
	53	Nadir	- -	199 59 60.0	60.1	64.0	64.2	62.9	57.3	61.42	30.8004	30.7777	- -
	54	"	- -	60.2	59.9	64.2	64.6	62.9	57.5	61.55	- - -	- - -	- -
	55										29.4380	- - -	- -
	56										29.4690	- - -	- -
	57	Polaris, S. P.	- -	327 24 59.4	59.9	62.3	62.0	62.8	54.0	60.06	29.4820	- -	30.029
	58										29.4740	- - -	- -
	59										29.4190	- -	-
21	60	Sun, S.	- -	70 4 59.9	60.1	63.4	63.5	64.6	57.5	61.50	30.8188	- -	30.112
	61	"	- -	60.2	59.8	63.6	63.8	64.9	57.9	61.70	- -	- - -	- -
	62	Sun, N.	- -	69 29 62.9	63.8	68.5	67.7	68.2	61.4	65.42	28.2610	- - -	30.112
	63	"	- -	63.3	63.8	68.5	67.2	67.8	64.5	65.85	- - -	- - -	- -
	64	Lalande, 43106	- -	81 9 60.8	60.5	62.2	60.8	63.8	57.2	60.88	30.2936	- - -	29.959
	65	"	- -	60.9	60.8	62.4	60.9	64.2	56.7	60.90	- -	- - -	-
	66	Weisse XXII, 640	- -	73 44 60.6	60.7	65.0	64.2	65.5	57.2	62.37	34.2955	- -	29.955
	67	Weisse XXII, 644	- -	- -	- -	- -	- -	-			33.4702	- - -	-
	68	Lalande, 45049	- -	80 34 60.5	62.0	64.5	62.8	66.8	58.0	62.43	34.2764	- -	29.948
	69	Weisse XXII, 1232	- -	70 9 61.2	61.8	64.9	64.5	66.8	59.3	63.08	34.3002	- -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	56.5	45.5	53.0	58 5	— 12.04	+ 49.32	59 55 35.46	— 1 1 56 21	—49.14	C.F.	
2	56.0	45.5	53.0	58.4	— 3 53.85	+ 2 20.49	87 23 25.19	—28 29 45.94	—42.08		
3	54.5	45.0	53.0	57.2	— 48.77	+ 32.05	48 49 42.90	+10 3 56.35	—55.04		
4	53.5	44.7	- -	57.0	— 4 43.02	+ 2 34.77	89 17 51.00	—30 24 11.75	—45.93		
5	- -	- -	60.0	62.0	- - -	- - -	- - - -	- - - -	- - -		
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
7	54.0	45.4	53.0	57.0	+ 1 44.45	+ 11.07	30 36 55.22	+28 16 44.03	—58.63		
8	53.0	42.7	52.0	57.0	+ 9.71	— 17.95	3 9 51.24	+55 43 48.01	—56.92		
9	54.0	43.0	52.0	55.0	+ 49.87	+ 33.96	49 41 23.60	+ 9 12 15.65	—49.54		
10	52.0	42.5	52.0	55.0	— 3 57.19	+ 2 22.12	87 23 24.18	—28 29 44.93	—41.95		
11	50.0	42.0	51.0	55.0	— 51.47	+ 32.87	48 49 42.00	+10 3 57.25	—55.07		
12	48.5	41.4	51.0	54.0	+ 23.90	+ 2 36.73	89 18 0.48	—30 24 21.23	—45.79	Y.	
13	- -	- -	49.0	52.0	- - -	- - -	- - - -	- - - -	- - -		
14	- -	- -	- -	- -	- - -	- -	- - - -	- - -	- - -		
15	48.0	39.6	49.0	52.5	+ 4 40.90	+ 58.51	66 45 37.96	— 7 51 58.71	- - -		
16	46.0	39.0	49.0	52.2	— 14.83	+ 1 34.81	77 41 20.60	—18 47 41.35	—53.51		16. Assumed Micrometer as 30.9754 instead of 30.4754.
17	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
19	44.0	38.8	48.0	51.0	— 1 34.46	— 1 10.65	330 22 15.91	+88 31 23.34	—50.16		
20	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
21	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
22	60.5	51.3	59.0	60.0	+ 1 44.64	+ 0.88	20 51 47.04	+38 1 52.21	—60.58		
23	60.5	51.2	57.0	59.0	+ 19.03	+ 9.53	29 15 30.26	+29 38 8.99	—50.63		
24	59.2	50.4	58.0	58.0	+ 38.35	+ 58.64	65 6 37.69	— 6 12 58.44	—43.29		
25	57.3	49.8	- -	- -	— 23.16	+ 1 42.48	80 21 21.39	—21 27 42.14	—41.52		
26	- -	- -	- -	- -	— 1 51.73	+ 1 42.37	80 19 52.71	—21 26 13.46	—41.75		
27	56.6	48.9	57.0	59.0	— 2 40.80	+ 1 32.32	77 38 53.15	—18 45 13.90	—44.08		
28	55.2	48.2	56.0	57.0	— 3 7.11	+ 1 19.86	73 43 11.72	—14 49 32.47	—48.22		
29	- -	- -	- -	- -	— 2 44.78	+ 1 19.88	73 43 34.07	—14 49 54.82	—48.30		
30	54.5	48.2	58.0	58.0	— 1 24.30	+ 1 12.46	70 59 49.38	—12 6 10.13	—51.06		
31	- -	- -	- -	- -	— 4 12.67	+ 1 12.34	70 57 0.89	—12 3 21.64	—50.36		
32	- -	- -	59.0	59.0	- - -	- - -	- - - -	- - - -	- - -	C.F.	32. The Micrometer reading for the Nadir evidently wrong. The adopted value is 30.7924 as determined from 61′ Cygni and β Aquarii.
33	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
34	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
35	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
36	58.5	51.5	53.0	58.0	+ 1 24.54	— 1 16.43	327 25 6.09	+88 31 26.84	—51.99		
37	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
38	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
39	61.5	45.3	57.0	59.0	+ 22.48	+ 33.75	49 40 55.60	+ 9 12 43.65	—49.56		
40	57.0	45.0	56.0	57.0	— 2 47.02	+ 1 33.20	77 38 45.96	—18 45 6.71	—44.00		
41	54.0	44.6	55.0	56.0	+ 1 26.64	+ 1 22.04	74 12 47.23	—15 19 7.98	—47.35		
42	53.5	44.0	55.0	56.3	— 51.39	+ 32.66	48 49 41.05	+10 3 58.20	—55.17		
43	52.5	43.5	54.0	56.0	+ 12.34	2 35.68	89 17 47.45	—30 24 8.20	—45.23		
44	50.5	43.4	50.0	55.5	— 1 48.90	+ 40.16	54 3 50.59	+ 4 49 48.66	—55.45	Y.	
45	49.0	42.5	53.0	54.0	+ 1 3.29	+ 1 0.04	67 42 4.36	— 8 48 25.11	- - -		
46	48.0	41.8	52.0	53.6	— 34.39	+ 38.32	52 45 4.18	+ 6 8 35.07	—56.57		
47	46.0	40.5	50.0	52.4	- - -	- - -	- - - -	- - - -	—51.72		
48	- -	- -	54.0	53.0	- - -	- - -	- - - -	- - - -	- - -		
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
50	46.5	39.0	52.0	52.5	— 2 31.95	+ 17.34	36 7 46.26	22 45 52.99	—48.88		
51	54.6	44.9	54.0	55.0	— 3 0.45	+ 30.74	51 52 31.47	+ 7 0 56.32	- - -	C.F.	51. Very tremulous.
52	- -	- -	- -	-	— 2 38.30	+ 31.51	51 52 54.39				
53	- -	- -	59.0	58.0	- - -	- - -	- - - -	- - - -	- - -		53. Tremulous.
54	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	- -	-	- -	-	- - -	- - -	- - - -	- - - -	- -		
57	55.8	53.2	57.0	58.0	+ 1 22.73	— 1 15.53	327 25 7.26	+88 31 28.01	—51.72		
58	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
59	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
60	56.7	57.1	58.0	58.0	— 2.14	+ 1 2.23	70 6 1.69				
61	- -	- -	- -	- -	- - -	- - -	- - -	—10 56 12.72	- - -		
62	57.0	57.7	58.0	60.0	+ 2 35.72	+ 1 0.91	69 33 42.26				
63	- -	- -	- -	- -	- -	- -	- - - -				
64	59.2	48.2	57.0	59.0	+ 31.83	+ 1 45.65	81 12 18.37	—22 18 39.12	—40.20		
65	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
66	58.0	47.1	56.0	59.0	— 3 39.68	+ 1 19.42	73 42 42.11	—14 49 2.86	—48.17		
67	- -	- -	- -	- -	— 2 47.84	+ 1 19.47	73 43 34.00	—14 49 54.75	—48.16		
68	57.2	46.4	55.0	57.0	— 3 38.50	+ 1 43.22	80 33 7.15	—21 39 27.90	—48.35		
69	- -	- -	- -	- -	— 3 39.98	+ 1 9.94	70 7 33.04	—11 13 53.79	—51.41		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Oct. 21	1	ι Piscium	- -	54 4 60.1	60.8	64.2	63.4	65.5	56.4	61.73	32.5484	- - -	29.945
	2	"	- -	60.2	61.2	64.1	63.8	65.2	64.1	63.10	- - -	- - -	- -
	3			199 59 60.4	59.9	63.5	64.4	62.9	57.7	61.47	- - -	- - -	- -
	4			60.7	60.1	63.3	63.4	62.9	57.4	61.30	30.8184	30.7972	- -
	5	Nadir	- -	59.8	60.8	63.0	63.8	63.0	57.7	61.35	- - -	- - -	- -
	6			60.1	60.9	62.7	64.1	63.4	57.5	61.45	- - -	- - -	- -
23	7	Sun, S.	- -	70 14 59.5	58.9	61.2	60.8	63.2	58.8	60.40	26.0624	- - -	30.098
	8	"	- -	59.7	59.5	61.3	61.0	62.9	55.9	60.05	- - -	- - -	- -
	9	Sun, N.	- -	70 44 58.9	58.7	59.9	59.9	62.8	54.5	59.12	28.6446	- - -	30.097
	10	"	- -	58.9	58.3	59.9	60.4	62.8	54.7	59.17	- - -	- - -	- -
	11	Nadir	- -	199 59 59.9	59.5	60.9	60.2	61.5	55.9	59.65	30.7812	30.7863	-
	12	"	- -	59.9	59.6	61.4	60.3	61.4	56.2	59.80	- - -	- - -	- -
	13			199 59 60.2	57.3	60.9	58.3	61.4	56.3	59.07	- - -	- - -	- -
	14			60.2	57.2	60.9	58.1	61.5	56.2	59.02	- - -	- - -	- -
	15	Nadir	- -	60.0	58.0	60.8	58.5	61.6	55.5	59.07	30.7850	30.8009	- -
	16			60.2	57.7	60.9	58.2	61.3	55.8	59.02	- - -	- - -	- -
	17	Lalande, 43040	- -	78 14 60.2	58.2	61.7	59.5	64.0	56.0	59.93	30.9470	- - -	30.091
25	18	Nadir	- -	199 59 60.9	56.9	60.8	56.8	60.9	56.2	58.75	30.7719	30.7919	- -
	19	"	- -	60.9	56.9	61.1	56.8	61.2	56.1	58.83	- - -	- - -	- -
28	20	α^2 Capricorni	- -	71 54 60.0	54.6	57.0	59.0	62.8	56.2	57.93	33.3462	- - -	30.168
	21	α Cygni	- -	14 9 59.5	53.5	57.6	58.4	60.8	54.3	57.35	32.5652	- - -	30.152
	22	ζ Cygni	- -	29 14 60.1	53.7	57.0	59.4	63.2	57.3	58.45	30.4380	- - -	30.160
	23	β Aquarii	- -	65 4 60.6	53.0	57.6	59.6	61.8	55.2	57.97	30.1452	- - -	30.160
	24	ε Pegasi	- -	49 39 60.3	53.3	57.5	60.5	63.2	57.4	58.70	29.9406	- - -	30.164
	25	Lalande, 42813	- -	79 9 59.9	55.7	58.7	61.2	63.2	54.9	58.93	29.2230	- - -	30.160
	26	α Aquarii	- -	59 54 60.7	54.2	58.7	60.8	61.5	57.6	58.92	30.9684	- - -	30.160
	27	Nadir	- -	199 59 60.3	54.4	58.5	60.8	60.8	55.8	58.43	30.7768	30.7974	- -
	28	"	- -	60.2	55.0	58.3	62.6	61.3	57.0	59.07	- - -	- - -	- -
Nov. 3	29	61[1] Cygni	- -	20 49 60.3	54.7	58.0	59.9	61.3	55.9	58.35	29.1332	- - -	30.082
	30	ζ Cygni	- -	29 14 60.0	55.0	57.9	59.7	62.2	55.1	58.32	30.3780	- - -	30.080
	31	β Aquarii	- -	65 4 60.3	55.4	58.6	60.6	61.0	55.1	58.50	30.1980	- - -	30.078
	32	ε Pegasi	- -	49 39 59.9	57.0	58.1	60.9	62.0	57.9	59.30	29.7842	- - -	30.078
	33	Lalande, 42813	- -	79 9 60.0	58.1	60.0	59.9	62.0	56.4	59.40	20.2672	- - -	30.078
	34	ζ Pegasi	- -	48 49 59.7	57.0	59.1	62.0	62.7	56.7	59.53	31.5976	- - -	30.074
	35	α Piscis Australis	- -	84 14 59.4	58.6	59.9	60.5	60.3	54.3	58.83	30.5092	- - -	30.068
	36	Nadir	- -	199 59 59.9	57.1	59.5	64.0	59.0	57.4	59.48	30.8073	30.8166	- -
	37	"	- -	59.9	57.3	59.6	63.3	59.4	57.3	59.47	- - -	- - -	- -
	38	ι Piscium	- -	54 4 60.2	57.9	60.2	61.6	62.0	56.1	59.67	32.5226	- - -	30.180
	39	α Andromedæ	- -	30 34 59.5	57.7	59.3	61.2	61.2	57.0	59.32	29.1786	- - -	30.084
	40	51 Piscium	- -	52 44 59.7	57.4	59.5	61.8	61.1	56.7	59.37	31.3222	- - -	30.074
	41	β Ceti	- -	77 39 60.0	59.0	61.6	64.0	63.5	57.0	60.85	30.9322	- - -	30.090
	42		I.	- - - -	- -	- -	- -	- -	- -	- -	32.4080	- - -	- -
	43		II.	- - - -	- -	- -	- -	- -	- -	- -	32.4130	- - -	- -
	44	Polaris	III.	330 24 59.7	56.9	61.0	62.8	59.8	55.0	59.20	32.4080	- - -	30.092
	45		IV.	- - - -	- -	- -	- -	- -	- -	- -	32.4160	- -	- -
	46		V.	- - - -	- -	- -	- -	- -	- -	- -	32.4200	- - -	- -
	47	Anonymous	- -	45 14 59.3	57.0	54.6	62.9	59.0	54.0	57.80	29.5990	-	30.104
	48	α Arietis	- -	36 4 58.6	56.0	59.6	61.8	59.2	54.1	58.22	28.4022	- - -	30.104
8	49		V.	- - - -	- -	- -	- -	- -	- -	- -	29.3520	-	- -
	50		IV.	- - - -	- -	- -	- -	- -	- -	- -	29.3540	- - -	- -
	51	Polaris, S. P.	III.	330 24 59.9	58.7	60.4	59.9	63.9	53.8	59.43	29.3600	- -	30.095
	52		II.	59.7	58.8	60.6	60.1	63.9	54.1	59.53	29.3680	- - -	- -
	53		I.	- - - -	- -	- -	- -	- -	- -	- -	29.3680	- - -	- -
	54	Nadir	- -	199 59 59.8	57.8	60.4	60.5	62.2	56.0	59.45	30.8206	30.8296	- -
	55	"	- -	60.0	57.9	60.5	60.5	62.2	56.1	59.53	- - -	- - -	- -
	56	ε Pegasi	- -	49 39 60.5	59.5	61.5	62.3	64.8	57.8	61.07	29.9684	- - -	30.075
	57	"	- -	60.8	59.2	61.7	62.4	65.0	57.5	61.10	- -	- - -	- -
	58	Anonymous	- -	79 34 60.8	63.5	63.4	63.2	64.8	57.7	62.23	31.4104	- - -	30.075
	59	"	- -	60.8	63.9	63.4	63.2	64.3	57.1	62.12	- -	- - -	- -
	60	Weisse XVI, 1333	- -	69 29 60.0	61.3	62.7	62.9	65.2	56.5	61.43	31.7258	- - -	30.075
	61	"	- -	60.1	61.1	62.8	62.9	65.3	56.7	61.48	- - -	- - -	- -
	62			199 59 59.9	58.9	60.7	62.8	60.6	55.8	59.78	- - -	- - -	- -
	63	Nadir	- -	60.0	58.8	60.9	63.0	60.8	56.1	59.93	30.8190	30.8208	- -
	64			59.5	60.1	60.1	62.8	61.4	55.9	59.97	- - -	- - -	- -
	65			59.4	60.2	60.3	62.9	61.6	56.1	60.08	- - -	- - -	- -
	66	Lalande, 45473	- -	78 34 60.3	61.1	62.2	62.7	65.0	55.8	61.18	33.1544	- - -	30.076
	67	ι Piscium	- -	54 4 59.8	61.1	61.3	62.0	63.6	54.7	60.42	32.5310	- - -	30.075
	68	"	- -	59.9	61.2	61.5	62.5	63.7	54.8	60.60	- - -	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	55.9	45.2	52.0	56.0	− 1 49.89	+ 39.65	54 3 52.18	+ 4 49 47.07	−55.45	C.F.	
2	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
3	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
4	- -	- -	55.0	56.0	- - -	- - -	- - - -	- - - -	- - -		
5	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
7	60.0	57.6	59.0	60.0	+ 4 57.31	+ 1 2.49	70 16 0.02				7. Circle reading assumed as 70° 10′ instead of 70° 15′.
8	- -	- -	- -	- -	- - -	- - -	- - - -	−11 38 29.22	- - -		
9	59.5	57.1	59.0	60.0	+ 2 13.94	+ 1 3.84	70 48 16.92				
10	- -	- -	-	- -	- - -	- - -	- - - -				
11	- -	- -	60.0	61.0	- - -	- - -	- - - -	- - - -	- - -		
12	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
13	- -	- -	62.0	61.0	- - -	- - -	- - - -	- - - -	- - -		13. Misty night. Lamps did not burn well. Observation bad.
14	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
15	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
16	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
17	61.2	49.2	- -	59.0	− 9.22	+ 1 34.22	78 16 24.93	−19 22 45.68	−43.03		17. Mist.
18	-	- -	63.0	63.0	- - -	- - -	- - - -	- - - -	- - -		18. Misty.
19	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	-		
20	63.5	60.8	62.0	64.0	− 2 40.01	+ 1 12.93	71 53 30.85	−12 59 51.60	−28.64		
21	63.5	60.0	61.5	64.0	− 1 50.99	− 5.89	14 8 0.47	+44 45 38.78	−49.35		
22	63.0	58.6	60.5	64.0	+ 22.77	+ 9.38	29 15 30.60	+29 38 8.65	−50.93		
23	63.0	59.0	60.8	64.0	+ 41.08	+ 57.64	65 6 36.69	− 6 12 57.44	−42.84		
24	63.0	58.5	60.5	64.0	+ 53.81	+ 32.81	49 41 25.32	+ 9 12 13.93	−49.53		
25	63.0	58.0	60.0	63.0	+ 1 39.10	+ 1 36.32	79 13 14.35	−20 19 35.10	−41.43		
26	62.5	58.0	60.0	63.0	− 10.77	+ 48.17	59 55 36.32	− 1 1 57.07	−48.78		
27	- -	- -	60.0	- -	- - -	- - -	- - - -	- - - -	- - -		
28	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
29	61.0	52.0	58.0	61.0	+ 1 45.88	+ 0.87	20 51 45.10	+38 1 54.15	−61.15	Y.	29. Star unsteady.
30	60.0	52.0	58.0	61.0	+ 27.74	+ 9.46	29 15 35.52	+29 38 3.73	−50.85		
31	59.0	51.5	58.0	61.0	+ 39.00	+ 58.32	65 6 35.82	− 6 12 56.57	−42.48		
32	58.0	51.3	58.0	61.0	+ 1 4.83	+ 33.18	49 41 37.31	+ 9 12 1.94	−49.35		32. Micrometer perhaps .2ʳ in error.
33	57.0	50.5	57.7	60.0	+ 1 37.52	+ 1 37.52	79 13 14.44	−20 19 35.19	−41.97		
34	54.0	48.3	56.2	60.0	− 49.00	+ 32.23	48 49 42.76	+10 3 56.49	−55.23		
35	54.0	48.0	56.0	59.0	+ 19.46	+ 2 33.31	89 17 51.60	−30 24 12.35	−43.40		
36	- -	- -	56.0	58.3	- - -	- - -	- - - -	- - - -	- - -		
37	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
38	52.5	47.0	55.0	58.3	− 1 47.09	+ 39.83	54 3 52.41	+ 4 49 46.84	−55.31		
39	51.5	46.3	55.0	58.0	+ 1 43.06	+ 11.03	30 36 53.41	+28 16 45.84	−60.92		
40	51.0	46.0	55.0	58.0	− 31.60	+ 37.84	52 45 5.61	+ 6 8 33.64	−56.50		
41	51.0	45.5	55.0	57.5	− 7.31	+ 1 32.89	77 41 26.43	−18 47 47.18	−51.17		
42	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
43	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
44	50.0	44.4	54.0	57.0	− 1 39.94	− 1 9.37	330 22 9.89	+88 31 29.36	−56.95		
45	- -	- -	- -	-	- - -	- -	- - - -	- - - -	- - -		
46	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
47	51.0	45.0	53.3	57.6	+ 1 16.61	+ 27.87	45 16 42.28	+13 36 56.97	−52.07		
48	50.0	43.0	53.0	57.0	+ 2 31.93	+ 17.13	36 7 47.28	+22 45 51.97	−50.18		
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
50	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
51	53.9	46.7	58.0	55.0	+ 1 32.74	− 1 16.67	327 25 15.55	+88 31 36.30	−58.96	C.F.	
52	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
53	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
54	- -	- -	59.0	59.0	- - -	- - -	- - - -	- - - -	- -		54. Mercury tremulous. Made several attempts to get a Nadir during the morning. The above not a very good one. Mean time 1 o'clock.
55	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
56	54.2	42.0	- -	56.0	+ 53.55	+ 33.81	49 41 28.44	+ 9 12 10.81	−49.16		
57	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
58	51.3	41.9	- -	- -	− 36.88	+ 1 30.34	79 35 55.63	−20 42 16.38	−40.52		
59	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
60	51.0	41.5	49.0	- -	− 56.89	+ 1 9.42	69 30 13.98	−10 36 34.73	−44.84		
61	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
62	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
63	- -	- -	54.0	55.0	- - -	- - -	- - - -	- - - -	- - -		
64	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
65	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
66	49.8	38.8	49.0	- -	− 2 26.56	+ 1 37.30	78 34 11.92	−19 40 32.67	−47.87		
67	48.5	38.4	47.0	- -	− 1 47.35	+ 40.39	54 3 53.55	+ 4 49 45.70	−55.19		
68	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 9	1		13 1 50	- - - -	- -	- -	- -	- -	- -	- -	29.3030	- - -	- -
	2		3 10	- - -	- -	- -	- -	-	- -	- -	29.3330	- - -	- -
	3	Polaris, S. P.	4 36	327 24 60.9	57.1	58.2	58.1	59.4	51.3	57.50	29.3220	- - -	30.230
	4		6 7	61.2	57.2	58.2	58.2	59.5	51.4	57.62	29.3240	- - -	- -
	5		7 23	- - - -	- -	- -	- -		- -	- -	29.3090	- - -	- -
	6	α Bootis	- -	38 54 58.9	57.5	58.0	59.3	61.4	53.4	58.08	29.6976	- - -	30.240
	7	"	- -	59.1	57.7	58.2	59.4	61.4	53.5	58.22	- - -	- - -	- -
	8	Nadir	- -	199 59 59.7	56.4	55.8	58.9	57.5	52.1	56.73	30.7913	30.8434	- -
	9	"	- -	59.8	56.5	55.9	58.9	57.7	52.1	56.82	- - -	- -	- -
	10	ι Piscium	- -	54 4 59.3	52.1	55.3	55.1	55.5	47.5	54.13	32.4158	30.7922	30.078
	11	α Andromedæ	- -	30 34 64.8	56.2	59.5	59.7	61.3	55.0	59.42	29.1822	- -	30.082
	12	γ Pegasi	- -	44 29 64.8	57.7	59.6	59.1	62.3	52.6	59.35	29.6180	- -	30.082
	13	51 Piscium	- -	52 44 64.2	57.1	59.8	62.0	62.8	54.9	60.13	31.3200	- - -	30.080
	14	β Ceti	- -	77 39 64.0	60.4	62.1	63.9	54.6	- -	59.95	30.9396	- - -	30.080
	15										32.4660	- -	- -
	16										32.4520	- - -	- -
	17	Polaris	- -	330 24 64.0	56.8	60.7	60.8	61.0	53.2	59.42	32.4390	- - -	30.080
	18										32.4630	- - -	- -
	19										32.4660	- - -	- -
	20	Nadir	- -	199 59 63.6	57.9	59.9	63.0	59.2	54.5	59.68	30.7862	30.7922	- -
	21	"	- -	62.9	58.0	59.3	63.3	60.6	53.9	59.67	- - -	- - -	- -
	22	α Arietis	- -	36 4 63.7	58.4	58.8	62.3	61.5	52.6	59.55	28.4228	- - -	30.086
	23	B.A.C. 745	- -	48 54 63.8	58.9	59.7	63.8	63.5	55.8	60.92	29.3172	- - -	30.086
	24	γ Ceti	- -	56 14 63.7	58.4	59.7	61.0	63.4	53.9	60.02	29.7452	- - -	30.086
	25	Weisse II, 790	- -	46 9 64.4	59.0	59.9	62.0	62.5	52.7	60.08	31.5912	- - -	30.086
	26	α Ceti	-	55 24 64.0	59.0	60.8	65.6	63.4	54.8	61.27	33.3472	- - -	30.082
	27	α Persei	- -	9 34 63.5	59.2	60.4	62.2	60.8	51.3	59.57	31.8946	- - -	30.080
	28	B.A.C. 1063	- -	- - - -	- -	- -	- -	- -	- -	- -	31.8664	- - -	- -
	29	η Tauri	- -	35 14 62.6	58.4	58.9	61.2	60.9	51.8	58.93	31.1834	- - -	30.080
	30	γ^1 Eridani	- -	72 49 66.1	65.8	63.4	67.0	67.1	55.8	64.20	32.6574	- - -	30.080
10	31	Sun, N.	- -	76 29 59.9	55.9	58.5	58.8	61.0	49.9	57.33	31.5840	- - -	30.225
	32	"	- -	60.0	56.2	58.7	59.1	61.3	50.1	57.57	- - -	- - -	- -
	33	Sun, S.	- -	75 54 60.6	56.0	58.4	59.0	60.7	50.7	57.57	29.0460	- - -	30.225
	34	"	- -	60.8	56.1	58.5	59.1	60.1	50.8	57.57	- - -	- - -	- -
	35	Mercury, S.	- -	81 9 60.4	57.8	57.2	58.2	59.2	51.4	57.37	33.3794	- - -	30.214
	36	Mercury, N.	- -	60.5	57.9	57.4	58.3	59.2	51.5	57.47	33.4852	- - -	- -
	37			199 59 59.5	56.0	57.0	58.2	60.3	51.3	57.05	- - -	- - -	- -
	38	Nadir	- -	59.4	56.3	57.3	57.9	60.4	51.5	57.13	30.7777	30.8245	- -
	39			59.3	56.8	56.9	57.9	59.9	51.7	57.08	- - -	- - -	- -
	40			59.3	56.9	57.1	58.1	60.1	51.4	57.15	- - -	- - -	- -
	41	ε Pegasi	- -	49 39 59.9	56.2	58.6	58.2	63.3	52.8	58.17	29.9602	- - -	30.235
	42	"	- -	60.2	56.3	58.8	58.3	63.5	52.9	58.33	- - -	- - -	- -
	43	Weisse XXI, 1375	- -	68 44 59.8	57.3	59.2	60.2	62.4	52.4	58.55	29.4112	- - -	30.241
	44		V.	- - - -	- -	- -	- -	- -	-	- -	29.3320	- - -	- -
	45		IV.	- - - -	- -	- -	- -	- -	- -	- -	29.3230	- - -	- -
	46	Polaris, S. P.	III.	327 24 65.0	59.0	61.4	61.4	63.1	54.1	60.67	29.3620	- - -	30.302
	47		II.	- - -	- -	- -	- -	- -	- -	- -	29.3410	- - -	- -
	48		I.	- - -	- -	- -	- -	- -	- -	- -	29.3460	- - -	- -
	49	α Bootis	- -	38 54 64.6	60.5	62.0	62.0	66.5	54.6	61.70	29.7612	- - -	30.290
11	50	Nadir	- -	199 59 64.1	57.3	59.6	59.4	61.6	54.8	59.47	30.7970	30.8089	- -
	51	"	- -	64.3	57.1	59.0	59.2	61.6	53.7	59.15	- -	- - -	- -
	52	ζ Cygni	- -	29 14 69.8	62.8	64.5	63.7	70.8	59.3	65.15	29.4418	- - -	30.134
	53	β Aquarii	- -	65 4 64.8	57.0	59.6	60.1	64.3	53.8	59.93	30.1890	- - -	30.124
	54	ε Pegasi	- -	49 39 64.1	57.4	59.4	59.2	64.9	56.0	60.17	29.9632	- - -	30.124
	55	Lalande, 43288	- -	77 34 63.0	57.0	59.0	58.0	64.2	53.4	59.10	28.5720	- - -	30.124
	56	Anonymous	- -	75 14 62.8	56.0	59.5	58.0	61.7	51.8	58.30	28.6198	- - -	30.120
	57	Anonymous	- -	66 59 62.2	55.2	58.4	57.7	62.1	53.3	58.15	32.6492	- - -	30.112
	58	α Pegasi	-	44 29 64.8	57.2	58.8	59.1	62.8	53.6	59.38	32.4460	- - -	30.098
	59	B.A.C. 8177	- -	53 19 64.8	57.2	59.6	59.5	64.0	54.8	59.98	32.3380	- -	30.100
	60	ι Piscium	- -	54 4 64.9	58.7	60.0	59.8	64.6	54.4	60.40	32.4842	- - -	30.106
	61	Nadir	- -	199 59 65.3	60.0	62.2	62.7	64.4	55.6	61.70	30.8180	30.7925	- -
	62	"	- -	65.0	60.4	61.3	62.6	64.6	55.8	61.62	- - -	- - -	- -
	63	β Ceti	- -	77 39 65.3	60.0	61.8	62.6	65.8	56.4	61.98	30.9310	- -	30.100
12	64			199 59 60.5	54.1	55.1	54.4	58.8	51.2	55.68	- - -	- - -	- -
	65	Nadir	- -	60.6	54.3	55.2	54.4	58.9	51.3	55.80	30.8002	30.8662	-
	66		- -	60.0	55.3	54.8	55.3	59.7	50.9	56.00	- - -	- -	- -
	67			60.3	55.3	54.9	55.4	59.9	51.1	56.15	- - -	- - -	- -
	68	Anonymous	- -	80 14 59.9	57.2	56.1	55.4	62.2	51.4	57.03	29.9470	-	29.950
	69	Irene (1852)	- -	77 49 59.8	56.2	57.1	55.8	62.2	51.3	57.07	30.1660	- - -	.950

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- -	C.F.	
2	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
3	47.1	43.5	48.0	50.0	+ 1 35.86	− 1 17.55	327 25 15.87	+88 31 36.62	−59.30		
4	- -	- -	-	- -	-	- - -	- - -	- - -	- - -		
5	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
6	47.0	45.2	49.0	51.0	+ 1 12.02	+ 20.35	38 56 30.52	+19 57 8.73	+44.92		
7	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
8	- -	- -	51.0	52.0	- - -	- - -	- - - -	- - - -	- - -		
9	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
10	49.0	45.3	46.3	52.0	− 1 41.87	+ 39.84	54 3 52.10	+ 4 49 47.15	−55.16		
11	48.0	42.0	46.0	51.0	+ 1 41.30	+ 11.13	30 36 51.85	+28 16 47.40	−61.46		
12	48.0	42.0	46.0	51.0	+ 1 13.87	+ 27.08	44 31 40.30	+14 21 58.95	−58.83		
13	48.0	42.3	46.3	51.0	− 32.99	+ 38.14	52 45 5.28	+ 6 8 33.97	−56.47		
14	48.0	42.5	46.4	51.0	− 9.30	+ 1 33.44	77 41 24.09	−18 47 44.84	−50.38		
15	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- -		
16	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
17	47.3	40.4	46.0	50.0	− 1 44.27	− 1 9.92	330 22 5.23	+88 31 34.02	−59.40		
18	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
19	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
20	- -	- -	48.0	51.0	- - -	- - -	- - - -	- - - -	- - -		
21	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
22	47.0	40.0	48.0	51.0	+ 2 29 09	+ 17.24	36 7 45.88	+22 45 53.37	−50.65		
23	47.0	40.0	47.8	50.0	+ 1 32.88	+ 32.97	48 57 6.77	+ 9 56 32.48	−47.56		
24	46.5	39.6	47.0	50.0	+ 1 5.78	+ 43.76	56 16 49.56	+ 2 36 49.69	−43.93		
25	46.0	38.0	47.0	50.0	− 50.12	+ 29.40	46 9 39.36	+ 8 43 59.89	−43.18		25. Circle reading assumed as 50° instead of 46°.
26	45.0	37.6	46.8	49.6	− 2 40.40	+ 42.52	55 23 3.39	+ 3 30 35.86	−41.34		
27	44.0	38.6	46.0	49.8	− 1 9.34	− 11.02	9 33 39.21	+49 20 0.04	−36.94		
28	- -	- -	- -	- -	− 1 7.57	− 11.02	9 33 40.98	+49 19 58.27	−36.14		
29	43.0	37.5	46.0	49.0	− 24.47	+ 16.33	35 14 50.79	+23 38 48.46	−33.05		
30	43.0	37.0	45.0	49.0	− 1 57.18	+ 1 18.91	72 49 25.93	−13 55 46.68	−32.11		
31	48.7	46.7	51.0	52.0	− 47.43	+ 1 21.82	76 30 31.84				
32	- -	-	- -	- -	- -	- -	- - - -				
33	48.7	46.4	51.0	54.0	+ 1 51.18	+ 1 20.13	75 58 8.88	−17 20 41.11	- - -		
34	- -	- -	- -	- -	- - -	- - -	- - - -				
35	49.0	46.7	50.0	51.0	− 2 40.40	+ 1 41.21	81 8 58.23	−22 15 15.64	- - -		
36	- -	- -	-	- -	− 2 47.07	+ 1 41.20	81 8 51.55				
37	- -	- -	- -	- -	- - -	- - -	- -	- - - -	- - -		
38	- -	- -	50.0	52.0	- - -	- - -	- - - -	- - - -	- -		
39	- -	- -	- -	-	- - -	- - -	- - -	- - - -	- - -		
40	- -	- -	-	-	- - -	- - -	- - - -	- - - -	- -		
41	49.8	40.1	48.0	56.0	+ 54.29	+ 34.13	49 41 26.67	+ 9 12 12.58	−49.05		
42	-	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
43	48.8	39.2	46.0	- -	+ 1 29.00	+ 1 8.41	68 47 35.96	− 9 53 56.71	−45.14		
44	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
45	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
46	47.0	44.0	47.0	50.0	+ 1 32.25	− 1 17.66	327 25 15.26	+88 31 36.01	−59.59		
47	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
48	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
49	48.0	47.5	50.0	52.0	+ 1 5.82	+ 20.27	38 56 27.79	+19 57 11.46	+45.19		
50	- -	- -	51.0	54.0	- - -	- - -	- - - -	- - - -	- - -		
51	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
52	52.5	49.0	50.0	53.0	+ 21.22	+ 9.58	29 15 36.95	+29 38 2.30	−50.05		
53	53.0	48.0	50.0	53.0	+ 38.05	+ 58.86	65 6 36.84	− 6 12 57.59	−42.08		
54	52.0	47.0	50.0	53.0	+ 52.10	+ 33.54	49 41 25.81	+ 9 12 13.44	−49.00		
55	52.0	45.5	49.0	52.0	+ 2 19.66	+ 1 32.83	77 38 51.59	−18 45 12.34	−42.52		
56	51.5	46.0	49.0	52.0	+ 2 16.63	+ 1 24.92	75 18 39.85	−16 25 0.60	−45.02		
57	51.0	45.3	48.2	51.8	− 1 56.64	+ 1 3.15	66 59 4.66	− 8 5 25.41	−35.29		
58	51.0	44.8	48.0	51.0	− 1 43.75	+ 26.88	44 28 42.51	+14 24 56.74	−57.86		
59	51.0	44.8	48.0	51.8	− 1 36.96	+ 38.80	53 19 1.82	+ 5 34 37.43	−56.24		
60	50.5	44.6	48.0	51.7	− 1 46.19	+ 39.93	54 3 54.14	+ 4 49 45.11	−55.05		
61	- -	- -	- -	- -	- - -	- -	- - -	- - - -	- - -		
62	- -	- -	- -	- -	- -	- - -	- - -	- - - -	- - -		
63	51.0	45.5	49.0	52.0	− 8.75	+ 1 32.92	77 41 26.15	−18 47 46.90	−50.08		
64	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
65	- -	- -	52.0	55.0	- -	- - -	- - - -	- - - -	- - -		
66	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
67	-	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
68	53.0	45.1	51.0	- -	+ 53.95	+ 1 42.46	80 17 33.44	−21 23 54.19	+11.29		
69	52.3	44.9	50.0	- -	+ 40.33	+ 1 33.20	77 52 10.60	−18 58 31.35	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 12	1		1 2 38	- - - -	-	- -	- -	- -	- -	- -	32.4420	- - -	- -
	2		4 3	- - - -	- -	- -	- -	- -	-	- -	32.4520	- - -	29.970
	3	Polaris	5 25	330 24 60.1	51.2	59.1	57.4	60.7	50.4	57.48	32.4480	- - -	- -
	4		6 29	- - - -	- -	- -	-	- -	- -	- -	32.4530	- - -	- -
	5		1 8 15	- - -	- -	-		- -	- -	- -	32.4610	- - -	- -
	6		13 2 14	- - - -	- -	- -	- -	- -	-	- -	29.2250	- - -	-
	7		3 37	- - -	- -	- -	-	-	-	-	29.2620	- - -	- -
	8	Polaris, S. P.	5 4	327 24 61.1	54.6	56.4	56.2	60.0	49.2	56.25	29.2410	- - -	29.998
	9		6 29	- - -	- -	- -	- -	-	-	-	29.2480	- - -	- -
	10		7 51	- - -	- -		-	-	- -	- -	29.2200	- - -	- -
	11	Nadir	- -	199 59 61.1	56.8	58.6	58.4	60.0	52.4	57.88	30.7709	30.8060	- -
	12	"	- -	61.9	56.6	58.5	58.6	59.5	51.8	57.82	- - -	- - -	- -
27	13	Anonymous	- -	72 4 64.1	56.8	59.6	57.5	62.3	52.5	58.80	29.8290	- - -	29.982
	14	Nadir	- -	199 59 64.4	57.2	60.6	59.8	61.2	63.4	61.10	30.8215	30.8237	-
	15	"	- -	63.8	58.2	61.0	60.5	62.5	53.5	59.92	- - -	- -	- -
	16	α Piscis Australis	- -	89 14 64.8	58.4	61.0	59.0	62.5	54.0	59.95	30.5634	- - -	30.002
	17	Lalande, 45704	- -	78 15 63.8	56.8	62.2	58.6	63.0	53.6	59.67	24.1318	- - -	30.080
	18	α Andromedæ	- -	30 34 63.9	56.4	61.5	61.8	61.7	53.5	59.80	29.2248	- - -	30.050
	19	51 Piscium	-	52 44 63.7	56.3	62.5	59.7	62.7	52.8	59.62	30.3280	- - -	30.050
	20	β Ceti	- -	77 39 63.7	59.0	64.2	59.7	63.8	52.8	60.53	30.9512	- - -	30.050
	21	Weisse O, 965	- -	50 34 65.3	57.2	62.8	59.8	62.8	55.3	60.53	33.1734	- - -	30.008
	22		1 2 23	- - -	- -	-	- -	-	-	- -	32.5490	- - -	- -
	23		3 46	- -	- -	- -	-	- -	- -	- -	32.5470	- - -	- -
	24	Polaris	5 7	330 24 64.8	58.2	63.4	61.4	61.5	54.0	60.55	32.5370	- - -	30.070
	25		6 37	- - - -	- -	-	- -	-	- -	- -	32.5410	-	- -
	26		1 7 4	- - - -	- -		- -	- -	- -	- -	32.5460	- - -	-
	27	Weisse I, 896	- -	43 39 64.2	59.0	61.8	60.8	61.8	53.0	60.10	30.3394	- - -	30.096
	28	α Arietis	- -	36 4 64.2	58.6	61.7	61.3	62.0	51.7	59.92	28.4956	- - -	30.096
	29	Nadir	- -	199 59 64.9	61.8	62.4	63.8	63.3	54.8	61.83	30.8411	30.8126	- -
	30	"	- -	64.7	61.8	63.0	64.0	62 8	55.0	61.88	- - -	- - -	- -
30	31	ζ Pegasi	- -	48 49 64.4	58.6	61.9	61.3	66.3	55.8	61.38	31.6512	- - -	30.424
	32	α Piscis Australis	- -	89 14 64.3	60.2	61.1	59.6	63.9	53.0	60.35	30.5730	- - -	30.420
	33	Weisse XXIII, 85	- -	69 34 63.2	57.9	61.5	59.8	63.8	53.4	59.43	29.5416	- - -	30.428
	34	Santini, 1636	-	52 34 63.0	55.5	60.0	59.5	61.3	52.2	58.58	29.4418	- - -	30.430
	35	α Andromedæ	- -	30 34 63.8	57.2	60.7	60.6	63.2	54.0	59.92	29.2590	- - -	30.436
	36	Nadir	- -	199 59 64.5	62.5	63.8	65.0	65.0	55.5	62.72	30.8605	30.8225	- -
	37	"	- -	64.1	62.3	62.6	64.0	64.3	55.8	62.18	- - -	- - -	- -
	38	γ Ceti	- -	44 29 63.9	58.1	60.5	59.2	62.0	52.5	59.37	29.6768	- -	30.436
	39		1 1 11	- - -	- -		- -	- -	-	- -	32.5440	- - -	- -
	40		3 35	- - -	- -	- -	- -		- -	- -	32.5500	- - -	- -
	41	Polaris	4 56	330 24 64.1	59.8	62.3	62.6	62.4	53.8	60.83	32.5470	- - -	30.416
	42		6 27	- - - -	- -	- -	- -	- -	- -	- -	32.5370	- -	- -
	43		7 45	- - - -	- -	- -	- -	- -	- -	- -	35.5120	- - -	- -
	44	Weisse I, 855	- -	47 4 63.6	59.0	61.0	61.6	63.4	52.6	60.20	33.5842	- - -	30.402
	45	α Arietis	-	36 4 63.0	59.5	60.8	60.7	61.8	50.0	59.30	28.5060	- -	30.400
	46	Lalande, 4460	- -	39 59 63.0	59.8	60.2	61.7	63.6	53.1	60.23	30.8370	- - -	30.400
	47	B.A.C. 905	- -	51 4 62.2	60.5	61.2	62.3	63.7	54.0	60.65	30.0730	- - -	30.402
	48	Nadir	- -	199 59 63.0	61.2	62.0	64.1	62.2	54.0	61.08	30.8677	30.8529	- -
	49	"	- -	62.9	61.0	61.8	64.0	61.8	53.9	60.90	- - -	- -	- -
	50	Nadir	- -	199 59 58.9	56.9	57.4	58.0	59.4	49.3	56.65	30.8022	30.8556	- -
	51	"	- -	58.9	57.0	57.7	58.1	59.4	49.4	56.75	-	- - -	- -
Dec. 1	52	Sun, N.	- -	81 4 60.5	57.8	58.9	57.5	61.2	49.2	57.52	31.8300	- - -	- -
	53	"	- -	60.6	57.9	59.3	57.8	61.2	49.3	57.68	- - -	- - -	- -
	54	Sun, S.	- -	80 29 60.0	57.9	59.2	58.2	62.3	50.1	57.95	29.5270	- - -	- -
	55	Nadir	- -	199 59 60.8	54.6	57.7	55.8	60.0	51.8	56.78	30.8105	30.8627	- -
	56	"	- -	60.9	54.8	57.6	55.5	59.7	52.1	56.77	-	- - -	- -
	57	ζ Pegasi	-	48 49 61.3	57.0	57.7	58.0	64.1	53.8	58.65	31.5982	- - -	30.398
	58	α Piscis Australis	- -	89 19 61.8	58.5	57.8	55.9	63.3	50.9	58.03	35.3104	- - -	- -
	59	Weisse XXIII, 85	-	69 39 60.3	57.2	59.2	58 2	63.3	53.9	58.68	34.2840	- -	30.368
2	60	Nadir	- -	199 59 64.4	58.8	60.0	61.0	61.0	55.8	60.17	30.8463	30.8442	- -
	61	"	-	64.0	59.3	60.0	61.2	61.8	55.0	60.22	- -	- -	- -
	62		1 2 8	- - -		- -	- -	- -	- -	- -	32.5790	- -	- -
	63		3 39	- - - -	-	-	-	- -	- -	- -	32.5650	- - -	- -
	64	Polaris	5 2	330 24 64.2	57.4	61.6	59 7	62.1	53.6	59.77	32 5680	- -	30.344
	65		6 26	- - - -	- -		- -	- -	- -	-	32.5640	- -	- -
	66		1 7 51	- - -	-	- -	- -	- -		- -	32.5800	- -	-
5	67	Nadir	- -	199 59 60.5	57 4	59.2	57.8	62.0	52 9	58.30	30.8221	30.8505	- -
	68	"	- -	60.7	57.2	59.2	57 5	62.0	52.9	58.25	- -	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	- -	- - -	- - -	-	- - - -	- - -	C.F.	
2	48.5	40.3	44.0	49 0	- - -	- -	- - -	- - - -	- - -		
3	- -	- -	- -	- -	− 1 43.03	− 1 9.67	330 22 4.78	+88 31 34.47	−59.03		
4	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
5	- -	- -	-	- -	- - -	- -	- - - -	- - - -	- - -		
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
7	- -	-	- -	- -	- - -	- -	- - - -	- - - -	- - -		
8	50.0	44.3	48.0	49.4	+ 1 38.43	− 1 16.82	327 25 17.86	+88 31 38.61	−59.19		
9	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
10	- -	-	-	-	- - -	- - -	- - - -	- - - -	- - -		
11	- -	- -	51.0	52.0	- - -	- - -	- - -	- - - -	-		
12	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
13	50.0	36.4	42.0	50.0	+ 1 2.46	+ 1 16.73	72 7 17.99	−13 13 38.74	- -		
14	- -	- -	44.0	51.0	- - -	- -	- - -	- - - -	- - -		14. The first circle reading rejected on account of a probable error in the reading of Microscope F.
15	- -	-	- -	- -	- - -	- -	- - - -	- - - -	- - -		
16	48.5	35.5	44.0	49.0	+ 15.77	+ 2 37.17	89 17 52.89	−30 24 13.64	−41.02		
17	46.5	35.0	42.0	49.0	+ 6 59.99	+ 1 37.55	78 24 37.21	−19 30 57.96	−46.55		17. Circle reading apparently 10′ in error.
18	46.0	34.0	41.0	48.3	+ 1 39.93	+ 11.30	30 36 51.03	+28 16 48.22	−62.30		
19	45.0	34.5	41.0	49.0	− 32.22	+ 38.74	52 45 6.14	+ 6 8 33.11	−55.86		19. Micrometer reading assumed as 31.328 instead of 30.328.
20	45.0	34.5	41.0	48.0	− 8.74	+ 1 34.90	77 41 26.69	−18 47 47.44	−48.06		
21	44.5	34.5	41.0	48.0	− 2 28.27	+ 35.49	50 33 7.75	+ 8 20 31.50	−55.13		
22	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
23	- -	- -	-	-	- -	- -	- - - -	- - - -	- - -		
24	44.0	34.0	40.0	48.0	− 1 48.49	− 1 10.83	330 22 1.23	+88 31 38.02	−64.74		
25	- -	- -		- -	- -	- - -	- - -	- - - -	- - -		
26	-	- -	-	- -	- -	- - -	- - - -	- - - -	- - -		
27	44.0	34.0	42.0	48.0	+ 29.92	+ 26.48	43 40 56.50	+15 12 42.75	−52.58		
28	44.0	33.6	43.0	48.0	+ 2 25.77	+ 17.47	36 7 43.16	+22 45 56.09	−51.66		
29	- -	-	44.0	50.0	- - -	- - -	- - - -	- - - -	- - -		
30	- -	- -	- -		- - -	- - -	- - - -	- - - -	- - -		
31	50.0	39.5	45.7	50.0	− 52.03	+ 33.19	48 49 42.54	+10 3 56.71	−54.22		
32	50.0	38.6	45.0	50.0	+ 15.79	+ 2 38.36	89 17 54.50	−30 24 15.25	−40.80		
33	49.0	37.0	44.0	49.5	+ 1 20.63	+ 1 11.19	69 37 31.25	−10 43 52.00	−48.91		
34	48.0	36.4	43.5	49.0	+ 1 26.95	+ 39.01	52 37 4.54	+ 6 16 34.71	−55.85		
35	48.0	35.0	42.0	49.0	+ 1 38.42	+ 11.42	30 36 49.76	+28 16 49.49	−62.33		
36	- -	- -	42.0	48.0	- -	- - -	- - - -	- - - -	- - -		36, 37. Mercury very unsteady.
37	- -	- -			- - -	- -	- - - -	- - - -	- - -		
38	48.0	35.0	42.0	49.0	+ 1 12.02	+ 27.79	44 31 39.18	+14 22 0.07	- - -		
39	- -	- -	- -	-	- -	- -	- - - -	- - - -	- - -		
40	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
41	46.0	33.8	44.0	48 0	− 1 47.51	− 1 11.66	330 22 1.66	+88 31 37.59	−65.74		
42	- -	- -	-	- -	- - -	- - -	- -	- - - -	- - -		
43	-	- -		-	- - -	- - -	- - - -	- - - -	- - -		
44	43.0	32.5	43.0	45.7	− 2 51.56	+ 31.23	47 2 39.87	+11 50 59.38	−51.72		
45	42.0	32.0	43.0	46.0	+ 2 27.65	+ 17.59	36 7 44.54	+22 45 54.71	−51.80		
46	41.0	31.5	40.0	45.0	+ 0.94	+ 22.32	40 0 23.49	+18 53 15.76	−48.76		
47	40.0	30.5	40.0	44.0	+ 49.06	+ 37.07	51 6 26.78	+ 7 47 12.47	−42.06		
48	- -	- -	44.0	49.0	- - -	- - -	- - - -	- - - -	- - -		
49	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
50	- -	- -	52.0	51.0	- - -	- - -	- -	- - - -	- - -		
51	- -	- -	- -	- -	-	- - -	- - -	- - - -	- - -		
52	- -	47.8	51.0	- -	− 1 1.32	+ 1 39.26	81 5 35.54				
53	- -	- -		- -	-	-	- - - -	−21 55 37.58	- - -		
54	- -	- -	-	- -	+ 1 23.21	+ 1 36.96	80 32 58.12				
55	- -	- -	55.0	54.0	- - -	- - -	- -	- - - -	- - -		
56	- -	- -		- -	- - -	- - -	- -	- - -	- -		
57	54.6	41.9	50.0	- -	− 46.14	+ 33.76	48 49 46.27	+10 3 52.98	−54.14		
58	53.4	42.4	49.0	50.0	− 4 39.35	+ 2 36.97	89 17 55.65	−30 24 16.40	−40.78		
59	51.1	39.3	- -	49.0	− 3 34.85	+ 1 10.71	69 37 34.54	−10 43 55.29	−48.89		
60	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
61	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
62	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
63	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
64	50.0	36.8	46.0	49.0	− 1 48.23	− 1 11.03	330 22 0.51	+88 31 38.74	−66.27		
65	- -	- -	- -	- -	- - -	- -	- - -	- - - -	- - -		
66	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
67	- -	- -	59.0	57.0	- - -	- - -	- - - -	- - - -	- - -		
68	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
Dec. 6	1	Weisse O, 635	- -	51 54 60.6	56.2	58.8	58.8	61.8	52.3	58.08	30.7782	- - -	29.955
	2	Weisse O, 657	- -	- - -	- -	- -	- -	- -	- -	- -	34.9092	- - -	- -
	3		1 2 1	- - - -	- -	- -	- -	- -	- -	- -	32.6420	- - -	- -
	4		3 20	- - - -	- -	- -	- -	- -	-	- -	32.6090	- - -	- -
	5	Polaris	4 51	330 24 60.7	55.5	59.7	58.3	60.8	51.3	57.72	32.6140	- - -	29.950
	6		6 13	60.7	55.7	59.5	58.5	61.1	51.1	57.77	32.6340	- - -	- -
	7		1 7 40	- - -	- -	- -		- -	-		32.6380	- - -	- -
	8	0′ Ceti	- -	67 49 60.8	55.4	58.3	58.7	61.6	52.5	57 88	31.4688	- - -	29.956
	9	"	- -	60.8	55.5	58.3	58.2	61.8	52.4	57.83	- - -	- - -	- -
	10	Nadir	- -	199 59 61.1	56.3	58.0	58.0	60.9	51.9	57.70	30.8415	30.8789	- -
	11	"	- -	60.6	56.0	58.3	58.2	61.1	52.2	57.73	- - -	- - -	- -
8	12	Sun, S.	- -	81 9 60.3	56.3	57.9	54.2	61.8	51.7	57.03	17.3282	- - -	29.948
	13	"	- -	60.6	56.2	57.8	54.3	61.7	51.7	57.05	- -	- - -	- -
	14	Sun, N.	- -	81 49 60.4	54.1	56.2	54.8	59.7	51.8	57.17	24.3552	- - -	29.948
	15	"	- -	60.8	54.1	56.2	54.9	60.1	51 8	57.32	- - -	- - -	- -
	16		- -	199 59 60.5	53.5	55.9	54.1	58.9	57.7	56.77	- - -	- -	- -
	17		- -	60.5	53.2	55.8	54.3	58.9	57.5	56.70	30.8469	30.9057	- -
	18	Nadir	- -	60.3	53.9	56.1	54.7	58.7	51.9	55.93	- - -	- - -	- -
	19		- -	60.5	54.2	56 1	54.8	58.9	51.9	56.07	- - -	- - -	- -
	20	α Lyræ	- -	20 14 60.8	52.6	57.4	54.8	61.5	49.9	56.17	31.2036	- - -	29.930
	21	"	- -	60.6	52.7	57.4	54.5	61.7	49.8	56.12	- - -	- - -	-
	22	β Lyræ	- -	25 39 60.2	53.8	56.6	53.1	59.9	49.8	55.57	29.1068	- - -	29.929
	23	"	- -	60.3	54.2	56.8	53.4	59.8	49.9	55.73	- - -	- - -	- -
	24	α Aquilæ	- -	50 24 60.4	55.3	57.2	54.7	61.7	52.5	56.97	31.6896	- - -	29.927
	25	"	- -	60.7	55.2	57.1	54 8	61.5	52.8	57.02	- - -	- - -	-
	26	γ Pegasi	- -	44 29 59.9	54.1	55.9	53.9	60.6	50.0	55.73	29.5940	- - -	29.955
	27	"	- -	60.1	54.4	56.0	54.3	60.9	50.2	55.98	- - -	- - -	- -
	28	Weisse O, 572	- -	52 24 60.4	55.0	57.7	56.2	61.2	52.4	57.15	30.2072	- - -	- -
	29	Weisse O, 680	-	51 24 61.2	55.5	58.9	56.7	63.4	52.1	57.97	32.8204	- - -	30.940
	30	Weisse I, 943	- -	46 14 61.8	54.1	57.2	56.2	59.9	51.1	56.72	32.7442	- - -	30.928
	31	Weisse I, 973	- -	- -	- -	- -	-	- -	- -	-	38.2072	- - -	- -
	32	Nadir	-	199 59 60.0	56.9	57.8	58 1	59.4	51.7	57.32	30.8189	30.8622	- -
	33	"	- -	60.2	56.7	57.8	58.3	59.6	51.5	57.35	- - -	- - -	- -
11	34	α Arietis	- -	36 4 62.1	54.7	59.1	58.6	60.7	51 0	57.70	28.5046	30.8326	29.794
	35	B.A.C. 745	- -	48 54 65.8	59.2	64.2	62.1	66.6	56.6	62.42	29.4058	- - -	29.802
	36	γ Ceti	-	56 14 64.0	57.2	61.6	60.2	63.1	55.0	60.18	29.7554	- - -	29.818
	37	Weisse II, 790	- -	50 9 64.0	57.1	61.9	59.8	63.2	54.8	60.13	31.7002	- - -	29.818
	38	α Eridani	- -	88 24 64.5	59.8	61.8	60.2	63.1	54.3	60.62	30.4078	- - -	29.828
	39	Weisse III, 447	- -	45 34 64 4	58.2	62.9	60.6	62.9	53.8	60.47	29.7090	- -	29.836
	40	Anonymous	- -	47 39 64.6	57.5	62.2	60.8	63.5	54.8	60.57	30.5082	- - -	29.848
	41	Anonymous	- -	30 49 64.4	58.9	62.4	62.4	62.4	55.8	61.05	30.4726	- - -	29.854
	42	Nadir	- -	199 59 64.0	62.8	63.9	65.9	63.7	57.0	62.88	30.8725	30 8326	- -
	43	"	- -	63.8	62.8	63.2	64.3	63.2	56.2	62.25	- - -	- - -	- -
13	44	Nadir	- -	199 59 61.5	58.9	60.1	59.6	61 6	52.2	58.98	30.8318	30.8488	- -
	45	"	- -	61.8	58.9	60.2	59.3	61.5	52.3	59 00	-	- - -	- -
	46	α Lyræ	- -	20 14 61.0	57.9	60.6	58.8	63.2	50.9	58.73	31.2206	- - -	29.970
	47	"	- -	61.3	57.8	60.7	58.9	63.5	50.9	58 85	- - -	- - -	- -
	48	Nadir	- -	199 59 59.5	59.5	59.5	60.3	60.9	50.8	58.42	30.8376	30.8625	- -
	49	"	- -	60.0	59.4	59.7	60.4	60.8	51.1	58.57	-	- - -	- -
	50	Saturn, S.	- -	45 54 59.8	56.2	58.9	56.8	60.1	47.7	56.58	32 7888	- - -	- -
	51	Saturn, N.	- -	- - - -	- -	- -	-	- -	-	- -	33.1530	- -	-
14	52	β Ceti	- -	77 39 61.3	57.8	60.5	59.6	62.5	51.8	58.92	30.9502	30.8377	30 398
	53		1 5 37	- - -	- -	- -	- -	- -	- -	- -	27.8460	- - -	- -
	54		7 9	- -	- -	- -	- -	- -	-	-	27.8400	- - -	- -
	55	Polaris	8 34	330 19 64.7	58.7	62.4	62.2	62.7	52.4	60.52	27.8530	- - -	30.380
	56		9 57	- -	-	-	-	- -	-	- -	27.8480	- - -	-
	57		1 11 19	- - -	- -	-	-	-		- -	27.8440	- -	
	58	α Arietis	- -	36 4 64.8	59.5	62.5	63.2	64.2	52.2	61.07	28 5514	- -	30.372
	59	γ Ceti	- -	56 14 64.4	59.9	62.7	63.6	65.5	53.0	61.52	29.7964	-	30.362
	60	α Ceti	- -	55 24 64.9	61.1	64.5	64.7	66.3	52.5	62.33	33.4184	- -	30.366
	61	Nadir	- -	199 59 64.4	61.1	62.3	65.3	62.6	53.7	61.57	30.8613	30.8377	- -
	62	"	- -	64.3	61.4	62.3	64.8	62.8	53.5	61.52		- -	- -
	63	γ′ Eridani	- -	72 49 64.2	61.4	63 2	63.7	64.0	51.5	61.33	32.6158	- -	30.358
	64	B.A.C. 1330	- -	45 14 62.9	61.2	62.7	62 3	63.5	50.9	60 58	33 1774	- -	30 354
	65	α Tauri	- -	42 39 62.2	62.2	62 2	62.8	64.2	50 3	60.65	30.2462	- -	30.354

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	56.0	49.3	52.0	56.0	+ 6.27	+ 36.26	51 55 40.61	+ 6 57 58.64	−55.27	C.F.	
2	- -	- -	- -	- -	− 4 13.35	+ 36.16	51 51 20.89	+ 7 2 18.36	−55.25		
3	- -	- -	- -	- -	- - -	- - -	- - - -	- - -	- - -		
4	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
5	55.7	49.3	- -	56.0	− 1 49.61	− 1 8.35	330 21 59.78	+88 31 39.47	−67.21		
6	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
7	- -	- -	- -	- -	- - -	- -	- - -	- - -	- - -		
8	55.1	48.8	- -	56.0	− 36.91	+ 1 4.26	67 50 25.20	− 8 56 45.95	−47.54		
9	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
10	- -	- -	55.0	56.0	- - -	- -	- - - -	- - - -	- -		
11	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
12	59.2	53.0	59.0	- -	+14 13.49	+ 1 38.24	81 25 48.77				
13	-	- -	- -	- -	- - -	- - -	- - - -				
14	59.1	53.7	60.0	62.0	+ 6 51.54	+ 1 40.20	81 58 28.98	−22 48 29.62	- - -		
15	- -	- -	- -	- -	- - -	- - -	- - - -				
16	- -	- -	- -	- -	- - -	- - -	- - - -	-	- - -		
17	- -	- -	60.0	60.0	- - -	- - -	- - - -	- - - -	- -		
18	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
19	- -	- -	- -	- -	- - -	- -	- - - -	- - -	- - -		
20	59.5	55.0	60.0	- -	− 18.60	+ 0.24	20 14 37.79	+38 39 1.46	−14.09		
21	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
22	59.8	55.6	- -	62.0	+ 1 53.34	+ 5.74	25 41 54.73	+33 11 44.52	−16.13		
23	-	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
24	60.0	55.6	60.0	- -	− 49.26	+ 33.70	50 24 41.43	+ 8 28 57.82	−27.69		
25	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
26	58.9	45.2	56.0	58.0	+ 1 19 80	+ 26.75	44 31 42.40	+14 21 56.85	−58.41		
27	- -	46.3	57.0	- -	- - -	- - -	- - - -	- - - -	-		
28	- -	- -	- -	- -	+ 41.29	+ 37.24	52 26 15.68	+ 6 27 23.57	−55.13		
29	54.9	44.9	56.0	54.0	− 23.12	+ 35.81	51 23 30.66	+ 7 30 8.59	−55.23		
30	50.2	42.6	48.0	54.0	− 1 58.30	+ 29.05	46 13 27.47	+12 40 11.78	−50.67		
31	-	- -	-	- -	− 7 41.49	+ 28.92	46 7 44.15	+12 45 55.10	−50.47		
32	- -	- -	55.0	55.0	- - -	- - -	- - -	- -	- - -		
33	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
34	51.0	37.3	44.0	51.0	+ 2 26.46	+ 17.16	36 7 41.32	+22 45 57.93	−52.07		34. High wind. Star unsteady.
35	50.2	37.0	44.0	51.0	+ 1 29.85	+ 32.85	48 57 5.12	+ 9 56 34.13	−46.78		
36	49.5	36.6	44.0	50.5	+ 1 7.66	+ 43 63	56 16 51.47	+ 2 36 47.78	−41.79		
37	49.0	36.7	44.0	51.0	− 54.52	+ 34.54	50 9 40.15	+ 8 43 59.10	−42.10		
38	49.0	36 5	44.0	50.0	+ 26.87	+ 2 29.47	88 27 56.96	−29 34 17.71	−31 12		
39	48.0	36.0	43.0	49.8	+ 1 10.62	+ 28.56	45 36 39.65	+13 16 59.60	−35.95		
40	47.0	35.5	42.0	49.5	+ 20.53	+ 31.30	47 40 52.40	+11 12 46.85	−32.93		
41	47.0	35.0	42.0	49.0	+ 22.79	+ 11.45	30 50 35.29	+28 3 3.96	- - -		
42	- -	- -	42.0	49.0	- - -	- - -	- -	- -	- - -		
43	- -	- -	-	- -	- - -	- - -	- - - -	- - - -	- - -		
44	- -	- -	52.0	53.0	- - -	- -	- - - -	- - - -	- - -		
45	- -	- -	-	- -	- - -	- -	- - - -	- - - -	- -		
46	50.9	48.2	51.0	54.0	− 23.23	+ 0.24	20 14 35.80	+38 39 3.45	−12.59		
47	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
48	47.2	40.8	- -	- -	- - -	- -	- - - -	- - -	- - -		48, 49. Tremulous.
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
50	- -	- -	- -	-	− 2 1.11	+ 28.22	45 53 23.69	+13 0 26.86	- -		50, 51. Observation and Nadir unsatisfactory, both tremulous.
51	- -	- -	- -	- -	− 2 23.86	+ 28.21	45 53 0.93				
52	46.0	34.0	40.0	46.0	− 7.11	+ 1 36.08	77 41 27.89	−18 47 48.64	−46.19		
53	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
54	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
55	44.0	34.3	41.0	46.0	+ 3 8.18	− 1 11.52	330 21 57.18	+88 31 42.07	−69.06		
56	- -	- -	- -	- -	- - -	- - -	- -	- - - -	- - -		
57	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
58	41.5	34.0	40.0	46.0	+ 2 23.81	+ 17.62	36 7 42.50	+22 45 56.75	−52.13		
59	40.5	32.3	39.3	44.0	+ 1 5.39	+ 44.85	56 16 51.76	+ 2 36 47.49	−41.55		
60	39.5	32.0	41.0	44.0	− 2 42.01	+ 43.44	55 23 3.76	+ 3 30 35.49	−39.03		
61	- -	- -	42.0	44.0	- -	- -	- - - -	- - - -	- - -		
62	- -	-	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
63	36.5	30.6	40.5	43.0	− 1 51.68	+ 1 20.73	72 49 30.38	−13 55 51.13	−26.04		
64	36.5	29.6	40.0	43.0	− 2 26.93	+ 28.95	45 13 2.60	+13 40 36.65	−26.19		
65	36.5	28.5	39.0	42.0	+ 37.33	+ 25.76	42 41 3.74	+16 12 35.51	−22.36		

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.			h. m. s.	° ′ ″	″	″	″	″	″	″	r.	r.	in.
Dec. 17	1		1 5 40	- - - -	- -	- -	- -		- -	- -	32.6690	- - -	- -
	2		7 0	- - - -	- -	- -	- -	- -	- -	- -	32.6880	- - -	- -
	3	Polaris	8 30	330 24 62.2	57.9	59.8	62.4	63.0	51.2	59.42	32.7080	- - -	29.620
	4		9 55	- - - -	- -	- -	- -		-	-	32.7130	- - -	-
	5		1 11 15	- - -	-	- -	- -	- -	- -		32.7200	- - -	- -
	6	Weisse I, 513	- -	47 39 59.8	54.2	55.3	57.8	60.7	49.7	56.25	36.7888	- - -	- -
	7	Weisse I, 943	- -	46 9 59.9	54.9	55.8	57.2	61.3	48.3	56.23	27.9870	- - -	29.615
	8	Weisse I, 973	- -	- - - -	- -	- -	- -	-	-	- -	33.4452	- - -	- -
	9	Anonymous	- -	39 4 59.9	55.8	57.8	58.8	62.7	49.4	57.40	17.2744	- - -	29.620
	10	Rumker, 654	- -	- - -	-	- -	- -	- -	- -	- -	29.8722	- - -	- -
	11		I.	- - - -	- -	- -	- -		- -	- -	30.7190	- - -	- -
	12		II.	- - - -	- -	- -	- -	- -	- -	- -	30.7130	- - -	- -
	13	Saturn, N.	III.	45 54 60.2	56.3	56.6	56.8	61.0	57.9	58.13	30.7180	- - -	29.625
	14		IV.	- - -	- -	- -	- -	- -	- -	- -	30.7250	- - -	- -
	15		V.	- - - -	-	- -	-	- -	-	- -	30.7290	- - -	- -
	16		I.	- - - -	- -	-	- -	- -	-	- -	- - -	- - -	- -
	17		II.		-	- -	- -	- -	-	- -	30.3690	- - -	- -
	18	Saturn, S.	III.	45 54 60.5	56.2	56.7	57.1	61.5	58.2	58.37	30.3610	- - -	- -
	19		IV.	- - - -	- -	- -	- -	- -	-	- -	30.3580	- - -	- -
	20		V.	- - -	- -	-	- -	- -	- -	- -	30.3520	- - -	- -
	21	α Ceti	- -	55 24 59.7	56.5	58.0	60.3	62.3	50.2	57.83	33.3128	- -	29.625
	22	Nadir	- -	199 59 62.6	59.2	59.9	59.8	62.9	53.0	59.57	30.8980	30.9061	- -
	23	"	- -	62.5	59.2	60.1	59.5	62.7	53.1	59.52	- - -	- - -	- -
18	24		1 5 30	- - - -	- -	- -	-	- -	- -	- -	27.9120	- - -	- -
	25		6 58	- - -	- -	-	- -	- -	- -	- -	27.9110	- - -	- -
	26	Polaris	1 8 19	330 19 64.0	57.3	62.2	58.7	63.2	52.4	59.63	27.9010	- - -	30.120
	27		9 46	- - - -	- -	- -	- -	- -	- -	- -	27.9080	- - -	- -
	28		11 7	- - - -	- -	- -	- -	- -	- -	- -	27.9050	- - -	- -
	29	Nadir	- -	199 59 64.1	58.2	59.9	60.9	61.6	54.2	59.82	30.8725	30.8758	- -
	30	"	- -	63.9	58.1	60.3	61.6	61.8	53.6	59.88	-	- - -	- -
	31	α Ceti	- -	55 24 64.0	59.8	61.6	63.4	65.5	54.9	61.53	33.4352	30.8702	30.132
	32	α Persei	-	9 34 64.8	60.8	61.4	62.0	63.3	53.8	61.02	32.9960	- - -	30.138
	33	Weisse III, 474	- -	45 14 65.0	61.6	62.5	63.5	64.5	53.3	61.73	33.3164	- - -	30.138
	34	Anonymous	- -	43 9 64.7	62.0	62.4	64.5	65.6	54.0	62.20	30.2770	- - -	30.032
	35	α Tauri	- -	42 39 64.7	62.2	62.0	64.6	65.3	53.2	62.00	30.3288	- - -	30.138
	36	B.A.C. 1478	- -	40 24 65.3	62.8	62.0	65.3	64.7	55.5	62.60	30.4540	- -	30.138
	37	β Orionis	- -	67 14 64.7	63.6	64.5	66.3	66.0	55.8	63.48	30.8762	- - -	30.138
	38	δ Orionis	- -	59 14 64.8	63.8	63.7	66.1	67.6	57.8	63.97	28.5202	- - -	30.040
	39	α Columbæ	- -	52 59 64.0	63.9	62.0	65.1	64.5	53.4	62.15	31.1792	- - -	30.140
	40	α Orionis	- -	51 29 63.5	63.0	62.1	64.8	66.0	54.2	62.27	30.4502	- - -	30.132
	41	Nadir	- -	199 59 63.2	62.0	62.5	66.0	62.8	53.5	61.67	30.8899	30.8646	- -
	42	"	- -	63.8	62.3	62.5	65.0	62.4	53.7	61.62	- - -	- - -	- -
29	43		I.	- - - -	- -	- -	- -	- -	- -	- -	30.4610	- - -	- -
	44		II.	- - - -	- -	- -	- -	- -	- -	- -	30.4920	- - -	- -
	45	Sun, N.	III.	82 19 59.1	55.8	56.3	56.8	59.8	48.8	56.10	30.4950	- - -	30.349
	46		IV.	59.3	56.1	56.2	56.8	59.9	48.8	56.19	- -		- -
	47		V.	- - - -	- -	- -	- -	- -	- -	- -	30.4510	- -	- -
	48		I.	- - - -	- -	-	- -	- -	- -	- -	28.2420	- -	- -
	49		II.	- - - -	- -	-	- -	- -	- -	- -	28.1890	- - -	- -
	50	Sun, S.	III.	81 41 59.8	55.3	56.1	55.6	59.8	48.2	55.80	- -	- - -	30.329
	51		IV.	59.9	55.6	56.2	55.7	59.7	48.4	55.92	28.2120		- -
	52		V.	- - - -	- -	- -		- -	-	-	28.2180	- - -	- -
	53	Nadir	- -	199 59 59.5	56.1	57.0	56.9	59.7	49.9	56.52	30.8872	30.9426	-
	54	"	- -	59.6	56.3	57.2	57.1	59.8	49.8	56.63	- - -	-	- -
	55	Nadir	- -	199 59 60.5	57.2	56.9	57.9	61.2	49.9	57.27	30.8531	30.8955	- -
	56	"	- -	60.7	57.5	57.2	58.2	61.5	50.1	57.53	- - -	- - -	- -
	57	Weisse I, 100	- -	49 59 60.9	56.9	57.9	57.6	62.2	51.2	58.78	35.2950	- - -	- -
	58	"	- -	61.0	57.2	57.9	57.7	62.2	51.2	58.87	35.2850	- - -	- -
	59	Anonymous	- -	49 14 60.9	57.9	60.2	58.3	64.3	51.6	59.87	29.4026	- - -	30.288
	60	Weisse I, 299	-	- -	- -	- -	- -	- -		- -	31.1490	- - -	- -
	61	Weisse I, 655	- -	53 54 61.4	57.6	58.8	57.8	62.2	48.9	57.78	32.9056	- - -	- -
	62	B. Z. 394, 164	- -	42 29 59.5	56.9	57.8	57.2	62.2	49.2	57.13	30.4538	- - -	30.270
	63		I.	- - - -	-	- -	-	- -	- -	- -	30.7820	- - -	
	64		II.	- - - -	-	- -	- -	- -	- -	- -	30.7720	- - -	- -
	65	Saturn, N.	III.	45 59 59.5	58.2	57.3	57.8	62.8	47.8	57.23	30.8000	- -	-
	66		IV.	- - - -	- -	- -	- -	-	-	- -	30.7920	- - -	- -
	67		V.	- - - -	- -	- -	- -	- -	-	- -	30.8010	- - -	-
	68		I.	- - -	- -	- -	- -	- -	- -	- -	- -	- - -	- -
	69		II.	- - - -	-	- -	- -	- -	- -	- -	31.1120	- - -	-
	70	Saturn, S	III.	- - - -	- -	- -	- -	-	- -	- -	- -	- -	-
	71		IV.	- - -	- -	- -	- -	- -	-	- -	31.1500	- - -	- -
	72		V.	- - - -	- -	- -	- -	- -	- -	- -	31.1170	- - -	- -

Number.	THERMOMETERS. At.	Ex.	Up.	Low.	CORRECTIONS FOR Instrument.	Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	°	°	°	°	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -	C.F.	
2	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
3	49.8	44.3	48.0	- -	− 1 52.53	− 1 8.31	330 21 58.58	+88 31 40.67	−69.65		
4	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
5	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- -		
6	48.0	43.9	50.0	46.0	− 6 9.77	+ 30.40	47 34 16.88	+11 19 22.37	−52.49		
7	47.5	43.3	46.0	-	+ 3 3.50	+ 28.71	46 13 28.44	+12 40 10.81	−50.40		
8	- -	- -	- -	- -	− 2 39.41	+ 28.59	46 7 45.41	+12 45 53.84	−50.20		
9	46.9	42.8	46.0	- -	+14 16.99	+ 20.47	39 19 34.86	+19 34 4.39	- - -		
10	- -	- -	- -	- -	+ 1 4.92	+ 20.22	39 6 22.54	+19 47 16.71	−47.83		
11	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
12	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	-		
13	46.2	42.5	- -	49.0	+ 11.62	+ 27.95	45 55 37.82				
14	- -	- -	- -	- -	- - -	- - -	- - - -				
15	- -	- -	- -	- -	- - -	- - -	- - - -	+12 57 49.61	- - -		
16	- -	- -	- -	- -	- - -	- - -	- - - -				
17	- -	- -	- -	- -	- - -	- - -	- - - -				
18	- -	- -	- -	- -	+ 35.26	+ 27.96	45 56 1.47				
19	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
20	-	-	-	- -	- - -	- - -	- - - -	- - - -	- -		
21	46.1	42.2	45.0	.	− 2 31.09	+ 41.49	55 23 8.23	+ 3 30 31.02	−38.82		
22	- -	- -	47.0	49.0	- - -	- - -	- - - -	- - - -	- - -		22, 23. Mercury very tremulous.
23	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
24	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
25	-	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
26	48.0	36.8	43.6	- -	+ 3 6.71	− 1 10.50	330 21 55.84	+88 31 43.41	−69.82		
27	- -	- -	- -	- -	- - -	- - -	- - - -	- -	- - -		
28	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
29	- -	- -	43.6	48.0	- - -	- - -	- - - -	- - - -	- - -		
30	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
31	42.5	34.0	42.0	45.0	− 2 41.03	+ 42.91	55 23 3.41	+ 3 30 35.84	−38.75		
32	41.4	34.2	42.0	46.0	− 1 10.76	− 11.16	9 33 39.10	+49 20 0.15	−44.59		32. Micrometer assumed to be 31.966 instead of 32.996.
33	41.2	33.8	42.0	46.0	− 2 33.56	+ 28.48	45 12 56.65	+13 40 42.60	−35.62		
34	40.0	32.7	41.0	46.0	+ 37.45	+ 25.88	43 11 5.53	+15 42 33.72	−31.62		
35	38.5	31.0	40.2	43.0	+ 34.20	+ 25.44	42 41 1.64	+16 12 37.61	−22.28		
36	37.8	31.0	40.0	43.0	+ 26.32	+ 22.67	40 25 51.59	+18 27 47.66	−20.05		
37	37.0	30.5	38.0	42.0	− 0.43	+ 1 5.86	67 16 8.91	− 8 22 29.66	−11.43		
38	36.5	30.4	38.0	42.0	+ 2 27.83	+ 49.69	59 18 21.49	− 0 24 42.24	− 8.11		
39	36.2	30.0	38.0	42.0	− 19.31	+ 3 17.21	93 3 0.05	−34 9 20.80	− 5.09		
40	35.5	29.5	37.2	41.0	+ 26.57	+ 37.43	51 31 6.27	+ 7 22 32.98	− 3.12		
41	- -	- -	38.0	41.0	- - -	- - -	- - - -	- - - -	- -		
42	- -	- -	- -	- -	- - -	- - -	- - - -	- - -	- - -		
43	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
44	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- -		
45	40.4	40.3	51.0	53.0	+ 29.17	−14 30.73	82 5 54.58	−23 12 15.33	- -		
46	- -	- -	- -	- -	- - -	- - -	- - -	- - - -	- - -		
47	- -	- -	- -	- -	- -	- - -	- - - -	- - - -	- - -		
48	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
49	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- -		
50	48.9	38.8	49.0	50.0	+ 2 51.50	+18 1.30	82 2 48.66	−23 9 9.41	- - -		
51	- -	- -	- -	- -	- - -	- -	- - - -	- - - -	- - -		
52	- -	- -	- -	-	- - -	- - -	- - - -	- - - -	- - -		
53	- -	- -	52.0	51.0	- - -	- - -	- - - -	- - -	- -		53, 54. Mercury and Sun tremulous.
54	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
55	- -	- -	52.0	53.0	- - -	- - -	- - - -	- - - -	- - -		
56	- -	- -	- -	.	- - -	- - -	- - - -	- - - -	- - -		
57	- -	35.6	48.0	50.0	− 4 35.95	+ 34.86	49 55 57.73	+ 8 57 41.52	−49.05		
58	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
59	48.8	34.9	44.0	48.0	+ 1 34.00	+ 33.99	49 17 7.86	+ 9 36 31.39	- - -		
60	- -	- -	- -	-	− 15.84	+ 33.95	49 15 17.98	+ 9 38 21.27	−48.03		
61	46.8	33.8	44.0	- -	− 2 6.39	+ 40.80	53 53 32.19	+ 5 0 7.06	−49.16		
62	44.9	33.4	44.0	- -	+ 27.93	+ 25.18	42 30 50.24	+16 22 49.01	−32.59		
63	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
64	- -	- -	- -	- -	- - -	- - -	- - - -	- - - -	- - -		
65	- -	- -	- -	- -	+ 6.61	+ 29.23	46 0 33.07				
66	- -	- -	- -	-	- - -	- - -	- - - -				
67	- -	- -	- -	- -	- - -	- -	- - -				
68	- -	- -	- -	- -	- - -	- - -	- - - -	12 53 16.23	- - -		
69	- -	- -	- -	- -	- - -	- -	- - - -				
70	- -	- -	- -	- -	− 13.49	+ 29.23	46 0 12.97				
71	- -	- -	- -	- -	- -	- - -	- - - -				
72	- -	- -	- -	- -	- -	- - -	- - - -				

DATE.	Number.	OBJECT.	HOUR ANGLE.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MIC.	MIC. ZERO.	Barometer.
1852.				° ′ ″	″	″	″	″	″	″	r.	r.	in.
Dec. 30	1	Nadir		199 59 63.6	57.6	59.0	59.7	61.8	52.6	59.05	30.8748		
	2	"		62.8	57.8	59.0	60.0	61.8	53.2	59 10		30.8904	
	3	α Tauri		42 39 62.8	56.5	58.1	58.6	61.8	52.5	58.38	30.2730		:0.092
	4	B.A.C. 1468		40 24 62.2	57.9	59.0	60.0	62.3	52.5	58.98	30.5250		:0.088
	5	B.A.C. 1537		44 34 62.1	57.0	58.0	57.6	62.0	50.0	57.78	31.5004		:0.082
	6	α Aurigæ		13 4 62.0	57.6	60.0	59.4	62.5	50.0	58.58	32.6508		:0.080
	7	β Tauri		30 24 62.8	58.2	60.6	60.7	64.7	52.6	59.93	31.1584		:0.078
	8	ε Orionis		60 9 62.5	58.4	60.4	60.4	64.2	51.2	59.52	30.1234		:0.072
	9	α Orionis		51 29 61.7	58.8	60.0	61.0	64.0	51 8	59.55	30.4138		:0.064

Number.	THERMOMETERS.				CORRECTIONS FOR		Corrected Reading.	Observed Declination.	Reduct'n to 1850.0.	Observer.	REMARKS.
	At.	Ex.	Up.	Low.	Instrument.	Object.					
	°	°	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	-	-	51.0	52.0	- - -	- - -	- - - -	- - - -	- - -	C.F.	
2	- -	-	- -	- -	- - -	-	- - - -	- - - -	- - -		
3	47.0	34.5	46.0	47.0	+ 38.97	+ 25.20	42 41 2.55	+16 12 36.70	—22.04		3. Star unsteady.
4	46.5	34.5	- -	- -	+ 23.04	+ 22.41	40 25 44.43	+18 27 54.82	—20.57		4. Unsteady.
5	44.5	34.2	- -	-	— 38.19	+ 27.59	44 34 47.18	+14 18 52.07	—16.74		
6	42.5	33.7	43.0	45.0	— 1 50.59	— 7.36	13 3 0.63	+45 50 38.62	—15.73		
7	41.5	33.6	43.0	45.0	— 16.74	+ 11.10	30 24 54.29	+28 28 44.96	—11.33		7. Stars very unsteady.
8	41.0	33.0	42.0	45.0	+ 48 28	+ 51.04	60 11 38.84	— 1 17 59.59	— 5.63		
9	40.0	32.8	41.0	44.0	+ 30.13	+ 37.07	51 31 6.75	+ 7 22 32.50	— 2.09		

OBSERVATIONS

WITH THE

MERIDIAN CIRCLE,

1852.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
1852. Feb. 9	1	μ Geminorum								26.0	40.6	41.1	60.6	161 21 42.08		30.100	43.8	32.4
	2									46.5	57.7	58.3	56.5	356 39 54.75				
	3									48.0	60.5	62.3	60.5	59.82				
	4	Nadir								47.9	60.0	62.0	60.7	57.65				
	5									48.0	61.4	64.4	61.1	58.72				
	6									47.3	60.0	61.2	59.1	56.90				
	7		A.	36.69	38.83	41.21	43.88	47.06										
	8		B.	4.84	7.60	9.66	11.76	14.85		65.5	17.5	16.5	21.0	145 9 15.12				
	9	α Orionis	C.	33.60	35.66	37.80	39.89	42.31	5 47 37.98	9.5	21.5	18.3	21.0	22.59		30.110	45.2	33.0
	10		D.	0.88	3.42	6.11	8.60	11.21										
	11		E.	28.51	30.91	34.76	38.36	41.21										
	12	51 Cephei	C.	37.50	20.29	3.48	47.60	37.56	6 30 5.29	26.8	35.2	34.2	33.1	225 0 32.32				
	13		A.	6.98	10.81	13.76	16.88	20.26										
	14		B.	40.36	43.19	45.63	48.44	51.27										
	15	ε Canis Majoris	C.	12.98	15.29	17.84	20.25	22.80	6 53 17.83	56.8	67.7	66.6	64.9	109 2 4.00		30.105	42.4	31.6
	16		D.	43.90	46.55	49.93	52.70	55.13										
	17		E.	15.00	18.06	21.92	26.19	29.65										
	18		A.	38.20	42.00	44.49	47.18	50.69										
	19		B.	9.82	12.80	15.17	17.54	20.51										
	20	δ Geminorum	C.	40.65	42.79	45.13	47.41	49.55	7 11 45.29	34.1	38.5	37.1	34.7	160 1 36.10		30.100	42.0	31.9
	21		D.	10.42	12.73	15.33	18.40	20.71										
	22		E.	39.62	42.00	46.00	49.80	52.90										
	23		A.	59.50	3.79	6.97	9.98	13.72										
	24		B.	34.48	37.48	40.10	42.39	45.33										
	25	α^2 Geminorum	C.	7.71	10.00	12.85	15.16	17.86	7 25 12.67	46.1	58.9	55.8	55.3	169 59 54.02		30.099	41.2	30.4
	26		D.	39.68	42.11	45.18	48.30	50.88										
	27		E.	11.40	14.38	18.16	22.91	25.92										
	28		A.	33.11	36.73	39.66	42.68	46.48										
	29		B.	6.49	9.55	11.77	14.18	16.97										
	30	β Geminorum	C.	38.84	41.25	43.40	45.96	48.64	7 36 43.65	63.6	17.4	15.1	16.8	166 9 13.22		30.099	41.0	30.2
	31		D.	9.78	12.29	15.41	18.36	20.78										
	32		E.	40.71	43.81	47.64	51.81	54.86										
	33		B.		27.73	30.10	32.51	35.00										
	34	Mars, I.	C.	56.03	58.02	0.56	2.90	5.47	8 5 18.87									
	35		D.	25.95	28.21	31.31	34.00	36.89										
	36		E.	56.20	58.96	2.55	6.57	9.76		33.0	44.5	44.5	42.0	162 36 41.00		30.093	40.4	29.7
	37		B.		28.77	30.80	33.32	36.08										
	38	Mars, II.	C.	57.00	59.21	1.66	4.09	6.43	8 5 19.97									
	39		D.	27.10	29.69	32.41	35.44	37.86										
	40		E.	57.25	60.11	3.72	9.70	10.86										
	41		B.		29.00	31.50	34.21	37.31										
	42	B.A.C. 2703	C.	55.90	58.30	0.75	2.67	5.28	8 58 17.46									
	43		D.	25.85	28.31	30.96	33.80	36.11										
	44		E.	58.00	1.70	5.71	8.59	12.22										
Mar. 3	45	α Cygni								57.2	55.0	67.0	62.2	183 31 0.35		30.608	47.0	30.4

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Feb. 9	7	− 0 27.34	− 0.006	− 0.738	+ 0.615	− 0.137
Mar. 3	8	− 0 30.50	− 0.002	− 0.738	+ 0.615	− 0.137

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- -	- - -	- - -	— 17.72	160 21 24.36	- -	- - - -	+22 35 6.44	- -	+ 5.27	J.M.*	
2												
3												
4	- - -	- -	- - -	- - -	- - - -	-	- - - -	- - - -	-	- -		
5												
6												
7												
8												
9	— 0 80	— 27.33	-	— 37.10	145 8 41.74	- -	5 47 9.85	+ 7 22 23.82	— 6.66	+ 4.56		
10												
11												
12	+ 10.60	— 27.34	- - -	+1 8.16	225 1 40.48	- -	6 29 48.55	+87 15 22.56	—75.28	— 5.26		
13												
14												
15	— 1.24	— 27.34	— 0.05	—2 26.58	108 59 37.47	- -	6 52 49.25	—28 46 40.45	— 5.48	+21.29		15. Unsteady.
16												
17												
18												
19												
20	— 0.64	— 27.34	- - -	— 18.13	160 1 17.95		7 11 17.29	+22 15 0.05	— 7.66	+15.32		20. Quite unsteady.
21												
22												
23												
24												
25	— 0.52	— 27.34	- - -	— 7.11	169 59 46.91	- -	7 24 44.81	+32 13 28.99	— 8.24	+15.97		
26												
27												
28												
29												
30	— 0.57	— 27.34	- -	— 11.30	166 9 1.92	- -	7 36 15.74	+28 22 44.00	— 7.92	+18.65		
31												
32												
33												
34												
35												34. Unsteady.
36	— 18.79	— 27.35	- -	— 12.31	162 36 28.69	- -	8 4 33.28	+24 50 10.77	-	- -		
37												
38												
39												
40												
41												
42												
43	- - -	— 27.35	- - -	- - -	- - - -	- -	- - -	- - - -	- -	- -		
44												
45	-	- -	- -	— 6.34	183 31 6.69	- -	- - -	+44 44 58.99	- -	—11.81	D. M.	

* The letters J. M., in the column headed Observer, indicate Professor James Major; and the letters D. M., Mr. Daniel G. Major.

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	53.30	39.78	54.80	25.40	1.23										
Mar. 3	2	Polaris	C.	34.20	34.75	5.88	27.75	59.15	1 14 14.91	9.3	6.5	24.0	23.0	227 15 15.85	- - -	30.578	49.2	38.7
	3		D.	26.10	32.25	6.70	46.30	12.00										
	4		E.	35.90	22.55	35.50	56.86	47.95										
	5		A.	23.91	27.71	30.83	33.29	36.82										
	6		B.	56.00	58.89	1.03	3.40	6.19										
	7	μ Geminorum	C.	26.84	29.09	31.11	33.51	35.95	6 14 31.38	21.9	22.5	34.9	33.5	161 21 28.20	- - -	30.605	45.3	34.0
	8		D.	56.53	58.75	1.79	4.51	6.80		22.5	23.0	36.5	33.0	28.75				
	9		E.	25.68	28.46	32.00	36.29	39.12										
	10	Nadir	- -	- -	-	- -	-	- -	- - -	39.4	40.3	54.9	53.2	357 39 46.95	- - - -	- -	- -	- -
	11	α Canis Majoris	- -	- -	- -	- -	- -	- -	- - -	21.5	20.6	22.9	25.4	122 16 22.60	- - -	30.600	44.8	32.2
	12									51.9	51.0	56.5	58.5	110 1 54.48				
	13	ε Canis Majoris	- -	- -	-	- -	- -	- -	- - -	51.4	52.5	58.0	58.5	1 55.10	- - -	30.598	44.2	31.9
	14	δ Geminorum	- -	- -	- -	-	- -	- -	- - -	24.5	22.3	25.2	24.3	161 1 24.08	- -	30.596	43.7	31.3
	15		A.	26.44	30.99	33.78	37.12	40.53										
	16		B.	1.42	4.50	7.21	10.03	12.89										
	17	α^2 Geminorum	C.	35.46	37.76	40.05	42.98	45.31	7 25 40.29	38.3	40.0	51.9	50.8	170 58 45.22	- - - -	30.596	43.4	30.6
	18		D.	7.47	10.22	13.26	16.19	19.26										
	19		E.	39.40	42.72	46.66	51.19	54.34										
	20		A.	- -	39.70	42.94	46.07	49.40										
	21		B.	9.39	12.15	14.70	17.56	20.14										
	22	β Geminorum	C.	41.88	44.14	46.43	48.87	51.39	7 36 49.45	60.3	61.3	71.5	70.4	167 9 5.87	- - - -	30.596	43.0	30.2
	23		D.	12.67	15.35	18.33	21.08	23.76										
	24		E.	43.68	46.59	50.50	54.32	57.79										
	25		A.	14.81	18.65	21.66	24.06	27.67										
	26		B.	46.96	50.10	52.60	54.75	57.54										
	27	Mars, I.	C.	18.27	20.96	23.42	25.50	27.98	7 50 23.28	10.9	11.5	26.0	22.9	163 36 17.82	- - - -	30.596	42.5	30.0
	28		D.	48.84	51.38	54.02	56.77	58.24										
	29		E.	18.66	21.38	25.22	29.33	33.11										
	30		A.	15.80	19.84	22.60	25.18	28.63										
	31		B.	48.00	51.05	53.35	55.61	58.35										
	32	Mars, II.	C.	19.68	22.18	24.37	26.59	29.13	7 50 24.29	-	- - -	- -	-	- - - - -	- - - - -	- -	- -	- -
	33		D.	49.65	52.15	54.92	57.68	60.19										
	34		E.	19.68	22.48	26.14	30.08	33.94										
	35		A.	38.95	42.68	45.59	48.52	51.70										
	36		B.	11.36	13.77	16.25	18.77	21.85										
	37	15 Argus	C.	- -	44.42	46.59	49.05	51.95	8 1 30.96	62.0	60.6	71.7	71.3	114 55 6.40	- - - -	30.600	42.0	29.8
	38		D.	12.16	14.41	17.49	20.10	22.61										
	39		A.	41.93	46.09	48.31	51.22	54.90										
	40		B.	13.53	16.24	18.28	20.65	23.35										
	41	δ Cancri	C.	43.59	45.73	47.77	50.00	52.50	8 36 47.93	64.6	65.7	75.3	75.0	157 28 10.15	- - -	30.608	41.6	29.1
	42		D.	12.28	14.73	17.33	20.21	22.39										
	43		E.	40.89	43.85	47.39	51.04	53.96										
	44		A.	51.25	55.31	57.49	0.11	3.59										
	45		B.	21.82	24.32	26.58	28.90	31.31										
	46	α Cancri	C.	50.30	52.50	55.09	57.15	59.55	8 50 55.12	60.0	63.5	71.5	71.2	151 12 6.55	- - - -	30.605	41.6	28.6
	47		D.	18.62	21.10	23.66	26.22	28.50										
	48		E.	46.72	49.49	52.78	56.15	59.24										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Mar. 3 8	− 0 30.50	+ 0.002	− 0.738	+ 0.615	+ 0.137

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reductinn to 1850.0. AR.	Reductinn to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												1. Very unsteady.
2												2. Very unsteady.
3	−8 48.78	− 30.51	- - -	+1 11.27	227 16 27.12	- -	1 4 55.62	+88 30 19.42	+ 3.20	−45.61	D. M.	
4												
5												
6												
7	− 0.64	− 30.50	- -	− 17.97	161 21 10.50	- -	6 14 0.29	+22 35 2.80	− 7.21	+ 4.69		
8												
9												
10	- - -	- - -	- - -	- - -	- - -	- -	- - - -	- - - -	- -	-		
11	- - -	- - -	- -	−1 29.10	122 14 53.50	- -	- - - -	−16 31 14.20	- -	+22.81		11. Chronograph.
12												12. Steady Chronograph, did not work.
13	- - -	- - -	- - -	−2 28.88	109 59 25.91	- -	- - - -	−28 46 41.79	- -	+24.86		
14	- - -	- - -	- - -	− 18.45	161 1 5.63	- -	- - - -	+22 14 57.93	- -	+14.40		
15												
16												
17	− 0.52	− 30.50	- - -	− 7.25	170 58 37.97	- -	7 25 9.27	32 12 30.27	− 8.01	+14.03		
18												
19												
20												
21												
22	− 3.51	− 30.50	- - -	− 11.48	167 8 54.39	- -	7 36 15.44	28 22 46.69	− 7.72	+17.04		
23												
24												
25												
26												
27	− 0.61	− 30.50	- -	− 18.50	163 35 59.32	- -	- - - -	+24 49 51.62	- -	- -		27. Rather unsteady.
28												
29												
30												
31												
32	− 0.61	− 30.50	- - -	- - -	- - - -	-	7 49 52.67	- - -	- -	- -		
33												
34												
35												
36												
37	+ 14.82	− 30.50	- - -	−1 59.75	114 53 6.65	- -	8 1 15.28	−23 53 1.05	− 5.78	+32.31		36. Unsteady.
38												
39												
40												
41	− 0.68	− 30.50	- - -	− 22.82	157 27 47.33	- -	8 36 16.75	+18 41 39.63	− 7.42	+29.25		41. A little unsteady.
42												
43												
44												
45												
46	− 0.75	− 30.50	- - -	− 30.91	151 11 35.64	- -	8 50 23.87	+12 25 27.94	− 7.19	+32.03		46. Unsteady
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	13. 19	17. 28	20. 00	22. 86	26. 33										
	2		B.	45. 20	48. 41	50 65	52. 80	55. 52										
Mar. 3	3	Moon, I.	C.	16. 49	18. 35	20. 83	23. 03	25. 77	9 11 20. 93	- -	- -	- -	-	- -	- - - -	30. 598	40. 5	29. 8
	4		D.	45. 85	48. 61	51. 30	54. 08	56. 30										
	5		E.	15. 53	18. 29	21. 79	25. 88	28. 93										
	6		A.	26. 36	29. 75	32. 18	34. 90	28. 29										
	7		B.	56. 60	58. 57	1. 05	3. 41	5. 94										
	8	ξ Leonis	C.	25. 32	27. 46	29. 51	31. 89	34. 21	9 24 29. 80	27. 8	26. 5	31. 0	30. 2	150 43 28. 87	- - - -	30. 596	39. 4	29. 6
	9		D.	53. 36	55. 77	58. 27	1. 03	3. 16										
	10		E.	21. 31	24. 10	27. 23	31. 31	33. 99										
	11		A.	44. 16	47. 31	49. 76	52. 03	55. 79										
	12		B.	13. 61	16. 04	18. 33	20. 63	23. 13										
	13	o Leonis	C.	42. 65	44. 22	46. 86	48. 96	51. 04	9 33 46. 89	12. 3 13. 4	14. 8 13. 8	25. 2 25. 8	25. 3 24. 7	149 20 19. 40 19. 42	- - - -	30. 594	39. 0	29. 5
	14		D.	10. 41	12. 58	15. 10	17. 72	20. 03										
	15		E.	38. 00	40. 73	44. 39	47. 88	50. 88										
	16		A.	57. 23	1. 46	3. 75	6. 32	9. 48										
	17		B.	27. 56	30. 39	32. 60	34. 75	37. 11										
	18	α Leonis	C.	56. 95	58. 91	1. 17	3. 12	5. 30	10 0 1. 18	43. 0	44. 0	53. 0	53. 4	151 27 48. 35	- - - -	30. 598	37. 2	28. 3
	19		D.	24. 52	26. 92	29. 90	32. 52	34. 53										
	20		E.	52. 75	55. 46	58. 72	2. 40	5. 70										
	21		A.	10. 09	13. 52	16. 58	18. 79	22. 18										
	22		B.	39. 56	42. 51	44. 59	46. 88	48. 98										
	23	Weisse X, 229	C.	8 88	10. 12	12. 31	14. 55	16. 86	10 14 12. 60	29. 5	29. 1	36. 3	36. 4	134 6 32. 82	- - - -	30. 596	36. 8	28. 2
	24		D.	35. 50	38. 69	40. 55	43. 03	45. 17										
	25		E.	2. 75	5. 45	8. 95	12. 75	15. 81										
	26		A.	33. 28	37. 12	39. 61	41. 87	45. 03										
	27		B.	3. 12	5. 43	7. 63	10. 40	12. 68										
	28	Weisse X, 538	C.	32. 03	33. 61	36. 00	38. 17	40. 42	10 30 36. 37	28. 4	27. 8	36. 6	37. 0	128 30 32. 45	- - - -	30. 598	36. 1	27. 8
	29		D.	0. 01	2. 05	4. 81	7. 31	9. 56										
	30		E.	27. 46	30. 20	33. 29	37. 27	40. 81										
	31		A.	24. 98	28. 75	31. 22	33. 85	36. 99										
	32		B.	54. 56	57. 49	59. 61	1 71	4. 22										
	33	ε Hydræ	C.	23. 43	25. 56	27. 45	29. 78	32. 07	8 39 27. 69	- - -	- -	-	- - -	- -	- - - -	- - - -		
	34		D.	50. 69	53. 32	55. 81	58. 27	60. 35										
	35		E.	17. 98	20. 78	24. 29	28. 08	30. 97										
	36		A.	- -	-	16. 57	19. 16	22. 49										
	37		B.	39. 98	42. 66	44. 71	47. 05	49. 48										
	38	ε Orionis	C.	8. 51	10. 62	12. 76	14. 90	17. 11	5 29 18. 05	- -	- -	- -	-	- -	- - -	- - - -		
	39		D.	35. 96	38. 22	40. 84	43. 39	45. 53										
	40		E.	2. 98	5. 61	8. 81	12. 51	15. 37										
	41									58. 0	61. 4	55. 4	55. 4	357 39 57. 55				
	42	Nadir		- -	-	- -	- -	-	-	55. 2	61. 5	55. 8	55. 9	57. 10	VI. 40. 762	- - - -		
	43									56. 5	61. 9	55. 4	55. 2	57. 25				
	44		A.	46. 02	51. 00	54. 70	58. 41	3. 02										
	45		B.	28. 20	32. 05	35. 03	38. 26	41. 74		63. 9	68. 6	65. 5	57. 4	184 36 3. 85				
	46	α Aurigæ	C.	9. 05	12. 12	15. 25	18. 25	21. 56	5 6 15. 32	64. 2	69. 1	65. 9	57. 0	4. 05	VI. 41. 297	30. 228	55. 4	49. 0
	47		D.	48. 38	51. 68	55. 32	59. 06	2. 12		65. 4	68. 7	65. 4	59. 5	4. 75				
	48		E.	27. 32	31. 25	36. 25	41. 48	45. 39										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Mar. 3 8	− 0 30. 50	+ 0 002	− 0. 738	+ 0. 615	− 0. 137
6 8½	− 0 30. 19		− 0. 738	+ 0. 615	− 0 137
10 8½	− 0 30. 01	+ 0. 010	− 0. 738	+ 0. 615	− 0. 137

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+1 11.34	— 30.50	- -	- - - -	- - - -	- -	9 12 1.77	- - - -	- -	- -	D. M.	3. Beautifully steady.
4												
5												
6												
7												
8	— 0.76	— 30.50	- - -	— 31.49	150 42 57.38	- -	9 23 58.54	+11 56 49.68	— 7.18	+36.23		8. Not very good.
9												
10												
11												
12												
13	— 0.77	— 30.50	- -	— 33.41	149 19 46.00	- -	9 33 15.62	+10 33 38.30	— 7.17	+37.41		
14												
15												
16												
17												
18	— 0.75	— 30.50	- -	— 30.57	151 27 17.78	- -	9 59 29.93	+12 41 10.08	— 7.15	+39.70		18. Not good.
19												
20												
21												
22												
23	— 0.93	— 30.50	- -	— 59.03	133 5 33.79	- -	10 13 41.17	— 5 40 33.91	— 6.83	+41.99		
24												
25												
26												
27												
28	— 0.98	— 30.49	+ 0.07	—1 11.85	128 29 20.67	- -	10 30 4.90	—10 16 47.03	— 6.80	+42.88		
29												
30												
31												
32												
33	— 0.82	— 30.19	- - -	- - -	- - - -	- -	8 38 56.68	- - - -	— 6.93	- -	J. M.	
34												
35												
36												
37												
38	— 6 14	— 30.01	- -	-	- - -	- -	5 28 41.90	- - - -	— 5.72	- -		
39												
40												
41												
42	- - -	- - -	- - -	- - -	- - -	40.840	- - - -	- - - -	- -	-		
43												
44												
45												
46	— 0.31	— 30.02	— 15.68	+ 7.17	184 35 55.71	- -	5 5 44.99	45 50 34.96	— 8.16	—14.09		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	33.80	37.72	40.78	43.82	47.77										
	2		B.	8.90	12.20	14.75	17.63	20.42										
Mar. 10	3	α Columbæ	C.	43.56	45.94	48.50	51.02	53.88	5 34 48 63	54.2	58.4	51.7	49.2	104 38 53.37	VI. 40.920	30.234	53.5	47.0
	4		D.	16.54	19.36	22.35	25.58	28.03										
	5		E.	49.12	52.53	56.53	0.98	4.24										
	6		A.	39.00	49.00	52.50	36.00	45 00										
	7		B.	52.80	48.40	33.50	19.70	10.00										
	8	51 Cephei	C.	52.00	33.50	14.80	1.50	46.80	6 28 32.04	60.8	66.1	63.2	60.0	226 0 2.52	VI. 41.225	30.260	51.8	44.7
	9		D.	19.00	8.00	2.20	55.50	40.50										
	10		E.	48.50	44.20	53.50	13.50	10.50										
	11		A.	- -	- -	46.84	49.71	53.16										
	12		B.	12.00	15.05	17.20	19.69	22.31										
	13	δ Geminorum	C.	42.87	45.11	47.55	49.88	52.15	7 11 53.20	2.2	9.2	4.5	0.5	161 0 4.10	VI. 39.836	30.282	51.1	42.8
	14		D.	12.36	14.85	47.68	20.55	22.76		1 8	9.7	4.8	1.5	4.45				
	15		E.	41.71	44.60	48.19	52.19	55.28										
	16		A.	1.70	5.30	7.80	10.30	13.79										
	17		B.	31.32	34.09	36.26	38.41	40.93										
	18	α Canis Minoris	C.	59.99	2.19	4.33	6.40	8.57	7 32 4.30	4.3	5.5	5.5	4.9	144 21 5.05	VI. 39.392	- -	- -	41.8
	19		D.	27.43	29.85	32.55	34.97	36.98		3.9	4.5	4.8	4.5	4.42				
	20		E.	54.66	57.42	0.77	4.29	7.12										
	21		C.	41.04	43.40	45.89	48.82	50.85										
	22	β Geminorum	D.	12.13	14.88	17.78	20.61	23.06	7 37 17.84	- -	- -	-		- - - -	- - - -	- -	- -	- -
	23		E.	42.90	45.90	49.67	53.82	56.91										
	24	Mars, N. I.	A.	10.72	14.69	17.42	20.21	23.84										
	25	" II.	B.	43.89	46.90	49.26	51.68	54.50	7 50 19.28	58.2	66.7	60.7	60.0	163 18 1.40	VI. 37.792	30.310	50.0	41.8
	26	" I.	C.	14.59	16.90	19.12	21.45	24.03	- - -	59.0	66.5	61.3	60.7	1.87				
	27	" II.	D.	45.23	47.91	50.79	53.81	56 16	7 50 20.01									
	28	" I.	E.	14.44	17.39	20.98	25.12	28.26										
	29		A.	56.20	10.80	52.50	34.60	39.62										
	30		B.	8.60	53.20	11.70	39.90	13.25										
11	31	Polaris	C.	31.40	53.40	14.80	42.40	3.00	1 3 19.32	61.7	64.2	56.0	56.2	227 14 59.52	- - - -	30.599	52.9	46.0
	32		D.	17.30	46.00	23.50	6.40	24.60										
	33		E.	49.20	36.50	46.00	9.40	58.60										
	34	Venus, N.		- -	-	- - - -		- -	- - -	52.3	57.5	48.5	49.1	150 22 51.85	VI 39.512	30.596	53.0	47.0
	35									51.0	58.3	49.0	50.9	52 30				
12	36	Polaris	C.	28.00	46.00	10.00	35.50	59.00	1 3 11.70	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	37									58.5	63.8	58.1	56.9	357 50 59.32				
	38	Nadir		- -	- -	- -		- -	- - -	58.8	63.9	58.2	58.6	59.87	VI. 40.858	- -	-	- -
	39									58.9	63.9	58.5	58.5	59 95				
	40		A.	45.50	49.80	53.40	57.20	- -										
	41		B.	26.98	30.84	33.85	37.12	40.75										
	42	α Aurigæ	C.	7.88	10.89	14.12	17.04	20.31	5 6 17.22	60.8	66.1	61.7	57.2	184 48 1.45	VI. 41.175	30.274	61.2	60.8
	43		D.	47.33	50.75	54.38	58.02	1.13										
	44		E.	26.27	30.22	34.98	40.34	44.25										
15	45	α Aurigæ		- -	- -		- -	- -	- - -	22.0	23.2	16.0	10.2	184 47 17.85	- -	29.775	65.3	64.1
	46	Mars, N.		- -	- -	-	- - -	- -	- - -	41.2	49.5	41.5	42.5	163 15 43 67	VI. 40.502	29.852	63.7	59.3
	47	β Tauri		- -	-	- -	-	- -	- - -	42.2	41.9	36.4	31.5	167 25 38.00	- - - -	29.775	65.4	63.2
	48	λ Cancri		- -	- -	- -	- -	- -	- - -	9.1	16.1	6.5	8.7	163 25 10.10	- - - -	29.852	64.3	58.8
	49	α Orionis		- -		- -	-	- -	- - -	50.0	53.3	46.5	46.0	146 19 48.95	- - -	29.788	64.8	62.7

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Mar. 10	6	− 0 30.01	− 0.010	− 0.738	+ 0.615	− 0.137
11	0	- - -	- -	− 0.738	+ 0.615	− 0.137
21	5	− 0 28.87	- -	− 0.738	+ 0.615	− 0.137

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 1.30	— 30.01	— 2.74	—3 10.90	104 35 39.73	- -	5 34 17.32	—34 9 41.02	— 4.15	+14.56	J. M.	
4												
5												
6												
7												
8	+ 9.24	+ 70.30	— 13.21	+1 6.69	226 0 56.00	- -	6 29 51.28	+87 15 35.25	- - -	—10.94		8. Observed for declination at middle one. Observed with East clock, to reduce the time of which to the chronograph +1m 40s.31 must be added.
9												
10												
11												
12												
13	— 6.30	— 30.00	+ 34.44	— 17.83	161 0 20.88	-	7 11 16.90	22 15 0.13	— 7.32	+14.12		
14												
15												
16												
17												
18	— 0.82	— 29 99	+ 49.67	— 39.24	144 21 15.16	- -	7 31 33.49	5 35 54.41	— 6.53	+24.72		
19												
20												
21												
22	- -	-	- - -	- - -	- - - -	- -	7 36 15.39	- - - -	— 7.61	- -		22. Touched telescope.
23												
24												
25	— 0.67	29.99										
26	- -	- -	+1 44.56	— 17.90	163 19 28.29	- -	7 49 49.04	+24 34 7.54	- -	- -		
27	— 0.56	29.99										
28												
29												
30												
31	+ 17.79	+ 75.47	- - -	- - -	- - -	- -	1 4 52.58	- - - -	+ 6.55	- - -	D. M.	31. Unsteady. 1m 45s.00 to be added to reduce to the time of the chronograph.
32												32. Quite steady.
33												
34												34. Steady. The North limb is here observed with the Micrometer.
35	- -	- -	+ 45.56	— 34.45	150 23 3.18	- -	- -	11 37 42.43	- - -	- - -		
36	+ 20.31	+ 83.50	- - -	- - -	- - - -	- -	1 4 55.51	- - - -	+ 6.87	-	J. M.	
37												36. 1m 52s.45 to be added to reduce to the time of the chronograph.
38	- -		- - -	- -	- - - -	40.866	- - -	- - - -	- - -	- - -		
39												
40												
41												
42	— 3.33	— 28.87	— 10 60	+ 7.03	184 47 57.88	- -	5 5 45.02	+45 50 37.13	— 8.11	—14.09		
43												
44												
45	-	-	- - -	+ 6.85	184 47 24.70	- -	- - -	45 50 32.49	- - -	—13.97	D. M.	
46	-	- -	-	— 17.23	-	-	- - -	- - - -	-	- -		
47	- -	- -	- - -	— 10.36	167 25 27.64	- -	- - -	28 28 35.43	-	— 6.78		47. Beautifully steady.
48	- -	- -	- - -	— 14.65	163 24 55.45	- -	- - -	24 28 3.24	-	- - -		
49	-	- -	- - -	— 34.57	146 19 14.38	- -	- - -	+ 7 22 22.17	-	+ 5.05		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									29.9	34.4	30.8	28.8	357 50 30.97				
	2									31.0	34.9	31.6	30.5	32.00				
Mar. 15	3	Nadir								31.3	35.8	30.2	31.1	32.10				
	4									30.5	35.0	30.6	28.9	31.25				
	5									30.8	34.9	29.0	29.3	31.00				
	6	β Geminorum								49.9	52.5	44.8	46.5	167 19 48.42		29.838	64.0	59.8
	7		C.	50.90	53.56	56.55	59.46	2.41										
25	8	μ Ursæ Majoris	D.	27.75	30.92	34.32	37.85	40.64	10 14 34.51									
	9		E.	4.25	8.14	12.52	17.32	21.11										
	10		A.	35.55	39.78	42.56	45.93	49.78										
	11		B.	10.74	13.61	16.39	19.20	22.07										
	12	37 Leonis Minoris	C.	44.62	47.00	49.73	52.22	54.78	10 30 49.69							29.840	51.3	46.2
	13		D.	17.15	19.80	22.82	26.04	28.26										
	14		E.	49.02	52.69	56.38	0.90	4.36										
	15		A.	42.48	46.00	48.66	51.22	54.85										
	16		B.	13.00	15.65	18.00	20.20	22.39										
	17	ν Hydræ	C.	42.50	44.84	47.08	49.10	51.46	10 42 46.98									
	18		D.	10.90	13.35	15.94	18.65	20.86										
	19		E.	39.13	41.86	45.37	49.09	51.97										
31	20	α Leonis								24.5	45.9	20.0	21.3	151 38 27.92	VI. 41.182	29.888	45.9	37.4
	21									28.6	53.6	26.7	26.8	176 25 33.92				
	22	β Leonis Minoris								29.5	54.4	25.6	26.4	33.97	VI. 41.061	29.890	45.5	37.0
	23	α Ursæ Majoris								25.0	57.5	24.6	23.0	201 30 32.52	VI. 41.385	29.909	45.8	38.2
	24	δ Hydræ & Crateris								48.0	40.5	41.2	40.2	124 58 42.47	VI. 40.567	29.916	46.1	38.4
	25	θ Crateris								19.9	41.1	12.9	13.4	129 59 21.82	VI. 40.662	29.912	46.0	38.3
	26	π Virginis								19.2	44.5	17.5	16.3	146 24 24.37	VI. 40.743			
	27		B.	40.00	18.00	39.00	7.00	41.00										
	28		C.	2.00	22.00	46.00	7.00	36.00										
Apr. 1	29	Polaris	D.	46.00	8.00	50.00	25.00	50.00	1 9 53.55	36.4	56.4	30.6	28.4	227 26 37.95	VI. 40.995	30.030	54.8	57.0
	30		E.	18.00	3.00	11.00	37.00	25.00										
	31		C.	20.00	42.00	2.00	27.00	51.00										
7	32	Polaris	D.	59.00	29.00	6.00	48.00	5.00	1 18 54.00	23.1	43.0	18.0	14.2	227 26 24.57	VI. 40.691			
	33		E.		15.00	26.00	51.00	37.00										
	34									48.3	71.4	41.0	44.8	357 50 51.37				
	35	Nadir								48.7	71.3	40.9	45.4	51 57	VI. 40.359	30.056	52.2	46.0
	36									48.5	71.1	40.8	45.1	51.37				
	37	ε Leonis								58.3	21.2	50.3	54.0	163 25 0 95	VI. 40.968	30.048	53.8	41.4
	38	19 Leonis Minoris								52.2	74.5	45.0	48.1	180 42 54.95	VI. 40.722	30.047	53.9	41.3
	39	α Leonis								57.6	80.4	49.7	54.0	151 38 0.42	VI. 40.514	30.039	53.3	41.0
	40	42 Leonis Minoris								45.6	69.6	40.2	43.0	170 25 49.60	VI. 41.870	30.025	51.3	40.7
	41	α Ursæ Majoris								60.3	23.8	57.0	56.8	201 29 64.47	VI. 40.851	30.025	50.2	39.4
	42	δ Leonis								30.5	51.0	24.6	24.0	160 17 32.52	VI. 40.410	30.024	49.5	39.0
	43	γ Ursæ Majoris								12.2	36.5		7.5	193 27 16.05	VI. 40.742	30.023	48.4	38.0
	44									27.5	50.0	24.3	23.5	178 3 31.32				
9	45	α Canum Vent.								27.0	48.4	23.6	22.4	30.35	VI. 40.629			
	46									17.8	39.4	9.2	15.3	357 50 20.42				
	47	Nadir								17.7	40.0	9.0	14.8	20.37	VI. 41.036	29.980	51.0	37.5
	48									18.4	40.2	9.4	14.7	20.67				
	49	α Virginis								28.3	46.5	20.0	18.3	128 34 28.27	VI. 40.996	29.982	50.8	37.7
	50	82 Virginis								39.5	62.9	34.4	34.0	131 0 42.70	VI. 39.901	30.976	49.4	37.5
	51	η Ursæ Majoris								62.3	26.1	61.1	60.9	189 0 7.60	VI. 41.833	29.978	49.1	37.8
	52	η Bootis								30.5	56.3	25.3	30.0	158 5 35 52	VI. 41.269	29.980	49.0	38 1

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m s.	s.	s.	s.	s.
Mar. 25 10	− 0 25.74	+ 0.012	− 0.664	+ 0.680	− 0.039
Apr. 1 0	- - -	- - -	− 0.664	+ 0.680	− 0.039
3 0	- -	- - -	− 0.664	+ 0.680	− 0.039
7 0	- - -	- - -	− 0.664	+ 0.680	− 0.039

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED. R. Ascen'n.	OBSERVED. Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	- - -	- -	- - -	- - -	- - - -	- -	- - - -	- - -	- -	- -	D. M.	3. Nadir not good.
4												
5												
6	- - -	- - -	- - -	— 10.54	167 19 37.88	- -	- - - -	+28 22 45.67	- -	+16.21		
7												
8	— 38.00	— 25.74	- - -	- - -	- - - -	- -	10 13 30.77	- - - -	— 8.17	- -		
9												
10												
11												
12	— 0.29	— 25.73	- - -	- - -	- - - -	- -	10 30 23.67	- - - -	— 7.65	- -		
13												
14												
15												
16												
17	— 0.88	— 25.73	- - -	- - -	- - - -	- -	10 42 20.37	- - - -	— 6.78	- -		17. Very steady.
18												
19												
20	- - -	- - -	— 24.45	— 29.33	151 37 34.14	- -	- - - -	+12 40 13.39	- -	+38.71		
21												
22	- - -	- - -	— 20.31	— 1.49	176 25 12.15	- -	- - - -	+37 27 51.40	- -	+34.69		21. Steady.
23	- - -	- - -	— 31.42	+ 26.06	201 30 27.16	- -	- - - -	+62 33 6.41	- -	+32.73		
24	- - -	- - -	— 3.36	—1 18 45	124 57 20.66	- -	- - - -	—14 0 0.09	- -	+46.75		24. Blurred and unsteady.
25	- - -	- - -	— 6.62	—1 5.68	129 58 9.52	- -	- - - -	— 8 59 11.23	- -	+46.83		25. Unsteady.
26	- - -	- - -	— 9.40	— 36.40	146 23 38.57	- -	- - - -	+ 7 26 17.82	- -	+45.57		
27												
28												
29	— 8 41.49	- - -	— 18.04	+1 7.48	227 27 27.39	- -	- - - -	+88 30 6.64	- -	—37.12		
30												
31												
32	—16 41.79	- - -	— 2.81	+1 8.83	227 27 30.59	- -	- - - -	+88 30 9.84	- -	—34.92		
33												
34												
35	- - -	- - -	- - -	- - -	- - - -	40.609	- - - -	- - - -	- -	- -		35. Micrometer does not work well.
36												
37	- - -	- -	— 12.31	— 15.28	163 24 33.36	- -	- - - -	+24 27 12.61	- -	+32.71		
38	- - -	- - -	— 3.88	+ 2.97	180 42 54.04	- -	- - - -	+41 45 33.29	- -	+28.62		
39	- - -	- - -	+ 3.26	— 29.24	151 37 34.44	- -	- - - -	+12 40 13.69	- -	+38.29		
40	- - -	- - -	— 43.26	— 7.76	170 24 58.58	- -	- - - -	+31 27 37.83	- -	+36.70		
41	- - -	- - -	— 8.30	+ 26.08	201 30 22.25	- -	- - - -	+62 33 1.50	- -	+31.06		
42	- - -	- - -	+ 6.83	— 18.86	160 17 20.49	- -	- - - -	+21 19 59.74	- -	+41.36		
43	- - -	- - -	— 4.56	+ 16.69	193 27 28.18	- -	- - - -	+54 31 7.43	- -	+36.74		
44												
45	- - -	- - -	— 6.55	+ 0.22	178 3 24.50	- -	- - - -	+39 7 3.75	- -	+41.07		44. Steady.
46												
47	- - -	- - -	- - -	- - -	- - - -	40.438	- - - -	- - - -	- -	- -		
48												
49	- - -	- - -	— 19.14	—1 9.25	128 32 59.88	- -	- - - -	—10 23 20.87	- -	+43.54		
50	- - -	- - -	+ 18.42	—1 3.53	130 59 57.59	- -	- - - -	— 7 56 23.16	- -	- -		
51	- - -	- - -	— 47.85	+ 11.76	188 59 31.51	- -	- - - -	+50 3 10.76	- -	+39.95		51. Unsteady.
52	- - -	- - -	— 28.51	— 21.41	158 4 45.60	- -	- - - -	+19 8 24.85	- -	+42.16		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									55.8	66.6	50.8	51.3	357 49 56.12				
Apr. 13	2	Nadir								55.6	15.0	50.5	51.3	58.10	VI. 40.446			
	3									55.5	15.3	50.0	51.1	57.97				
	4		A.		2.28	5.00	7.99	11.65										
	5		B.	31.65	34.78	37.27	39.70	42.51										
	6	ε Canis Majoris	C.	4.03	6.56	9.00	11.46	14.46	6 53 12.11	60.2	76.5	47.9	48.5	110 9 58.28	VI. 38.697	29.888	61.1	60.0
	7		D.	35.40	38.08	41.10	44.08	46.50										
	8		E.	6.20	9.40	13.16	17.52	20.76										
	9		A.	29.27	33.02	35.84	38.67	42.30										
	10		B.	1.01	3.83	6.26	8.48	11.28										
	11	δ Geminorum	C.	32.01	34.25	36.43	38.78	41.28	7 11 36.53	60.7	80.0	49.8	50.5	161 11 0.25	VI. 39.530	29.880	61.0	59.5
	12		D.	1.55	3.93	6.58	9.60	11.82										
	13		E.	30.75	33.73	37.05	41.34	44.20										
15	14	ε Leonis								60.4	82.0	57.9	58.4	163 23 4.67	VI. 39.344	29.612	56.5	50.3
	15		C.	28.00	30.86	32.85	35.00	37.00										
	16	Anonymous	D.	56.71	58.84	0.91	3.58	5.82	10 13 1.28	59.9	81.6	55.4	55.3	133 19 3.05	VI. 37.155	29.623	56.0	50.0
	17		E.	23.83	26.28	29.82	33.04	36.60										
	18	δ Leonis								58.0	78.6	51.5	52.3	160 17 0.10	VI. 41.206	29.635	57.0	49.0
	19	42 Leonis Minoris								3.0	27.7	60.0	63.8	170 25 8.62	VI. 44.213	29.630	57.0	49.6
	20		A.	52.00	56.42	59.00	2.22	5.90										
	21		B.	26.60	29.50	31.91	34.67	37.61										
	22	Hydræ [3928]	C.	59.90	2.30	4.80	7.21	9.86	11 26 4.78	55.5	76.9	51.2	50.7	107 56 58.57	VI. 39.836	29.638	56.6	48.2
	23		D.	31.41	34.40	37.41	40.41	42.87										
	24		E.	3.21	6.60	10.61	14.84	17.93										
	25		A.	46.09	49.56	52.19	54.82	58.32										
	26		B.	19.51	21.51	23.62		26.35										
	27	β Leonis	C.	45.80	48.36	50.62	52.71	55.02	11 41 51.90	57.5	78.0	51.3	52.9	154 19 59.92	VI. 39.433	29.640	56.2	48.1
	28		D.	14.26	16.74	19.34	22.00	24.49										
	29		E.	42.43	45.41	48.58	52.53	55.46										
	30		A.	23.10	26.51	29.00	31.71	35.15										
	31	Anonymous	B.	52.52	55.31	57.30	59.16	1.80	12 0 57.19						VI. 38.002	29.644	55.1	45.8
	32		C.	20.99	23.03	25.28	27.29	29.73										
	33		A.	38.21	41.60	44.30	46.80	50.20										
	34		B.	7.72	10.62	12.50	14.71	17.28										
	35	η Virginis	C.	36.06	38.10	40.10	42.43	44.60	12 12 40.40	57.5	80.3	57.7	51.0	139 6 0.12				
	36		D.	3.39	5.72	8.22	10.63	12.87										
	37		E.	30.29	33.30	36.85	40.42	43.00										
	38		A.	5.81	10.39	13.75	16.95	21.00										
	39		B.	43.72	47.00	49.78	52.78	55.48										
	40	12 Canum Venati.	C.	20.50	22.71	25.78	28.88	31.49	12 49 25.88	56.9	60.8	52.2	54.3	178 2 56.05	VI. 38.002 38.170	29.650	53.9	45.3
	41		D.	55.32	58.59	1.77	5.36	8.23										
	42		E.	30.55	34.03	38.10	42.50	46.45										
	43	Polaris, S. P.	C.	9.00	34.00	53.00	19.00	35.00	13 59 54.00	58.1	78.6	51.7	52.7	130 22 61.02	IV. 39.120	29.653	53.5	45.3

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Apr. 13 7	− 0 19.85	+ 0.020	− 0.664	+ 0.680	− 0.039
15 13	− 0 18.79	+ 0.019	− 0.664	+ 0.680	− 0.039

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	m. s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- - -	- - -	- - -	- - -	40.522	- - - -	- - -	- -	-	D. M.	2. Nadir bad.
3												
4												
5												
6	— 4.02	— 19.85	+1 2.61	—2 17.55	110 8 43.34	- -	6 52 48.26	—28 47 37.41	— 4.24	+25.61		6. Steady.
7												
8												
9												
10												
11	— 0.43	— 19.85	+ 34.72	— 17.02	161 11 17.95	- -	7 11 16.25	+22 14 57.20	— 6.73	+13.03		11. Steady.
12												
13												
14	- -	- - -	+ 41.65	— 14.78	163 23 31.54	-	- - - -	+24 27 10.79	- -	+31.96		
15												
16	— 28.96	— 18.84	+1 56.74	— 56.44	133 20 3.35	40.558	10 12 13.48	— 5 36 17.40	— 6.55	+43.99		
17												
18	- -	- - -	— 22.23	— 18.24	160 16 19.63	- -	- - - -	+21 19 58.88	- -	+40.48		
19	- - -	- - -	—2 5.38	— 7.53	170 22 55.71	- -	- - - -	+31 26 34.96	- -	+35.56		
20												
21												
22	— 1.11	— 18.82	+ 24.77	—2 36.29	107 54 47.05	- -	11 25 44.85	—31 1 33.70	— 6.93	+50.71		22. Steady.
23												
24												
25												
26												
27	— 1.65	— 18.82	+ 38.59	— 25.10	154 20 13.41	- -	11 41 31.43	+15 23 52.66	— 6.98	+43.22		27. Steady.
28												
29												
30												
31	+ 27.37	— 18.81	+1 27.68	— 46.48	- - - -	- -	12 12 5.75	- - - -	— 7.08	- -		
32												
33												
34												
35	— 0.70	— 18.81	- -	- - -	139 6 41.32	- -	12 12 20.89	+ 0 10 20.57	— 7.08	+45.96		35. Steady.
36												
37												
38												
39												
40	— 0.16	— 18.79	+1 26.80	+ 0.21	178 4 23.06	-	12 49 6.93	+39 8 2.31	— 6.93	+39.75		
41												
42												
43	— 27.98	+5 24.98	+ 49 33	+1 15.79	230 25 6.14	- -	13 4 51.00	+88 31 14.61	+10.44	—32.75		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	41.51	45.02	47.60	50.14	53.69										
	2		B.	11.08	13.90	15.99	18.03	20.82										
Apr. 15	3	α Virginis	C.	40.22	42.29	44.43	46.37	49.03	13 17 44.59	58.9	80.9	54.5	52.6	128 33 1.72	VI. 36.875	29.656	53.0	44.7
	4		D.	7.62	10.56	13.10	15.79	17.91										
	5		E.	35.86	38.30	41.57	45.42	48.39										
	6		A.	25.53	31.36	35.30	39.05	44.31										
	7		B.	11.30	15.66	19.00	22.06	26.06										
	8	η Ursæ Majoris	C.	56.03	58.85	2.39	5.52	9.41	13 42 2.59	60.3	82.0	56.7	55.4	188 59 3.60	VI. 39.992	29.660	52.4	45.0
	9		D.	38.21	42.29	46.47	50.32	53.31										
	10		E.	20.77	25.29	30.13	35.95	40.13										
	11									57.7	81.0	56.1	55.6	357 50 2.60				
	12	Nadir		- - -	- - -	- - -	- - -	- - -	- - -	58.6	82.0	56.9	55.0	3.12	VI. 40.646	29.664	51.0	44.1
	13									58.5	82.3	56.4	56.1	3.32				
	14		A.	28.20	36.10	41.46	46.68	54.11										
	15		B.	32.40	37.95	42.60	47.12	52.69										
23	16	α Ursæ Majoris	C.	33.69	38.41	43.25	47.83	52.60	10 54 43.24	2.4	23.0	3.3	3.3	201 29 8.00	VI. 40.642	29.899	52.5	43.0
	17		D.	33.37	38.32	43.80	49.28	53.82										
	18		E.	32.66	37.68	44.98	52.93	59.00										
	19		B.	34.90	37.71	40.20	42.56	45.18										
	20		C.	5.81	7.84	10.22	12.98	15.53										
	21	Anonymous	D.	35.68	38.21	41.12	43.82	46.33	11 31 25.94	61.4	84.3	62.0	61.3	103 5 7.25	VI. 39.903	29.894	51.9	42.5
	22		E.	5.38	8.28	11.99	16.02	19.00										
	23		A.	36.60	40.48	42.98	45.71	49.00										
	24		B.	7.17	9.23	12.05	14.12	17.15										
	25	β Leonis	C.	37.60	39.39	41.26	43.33	45.67	11 41 41.27	1.5	26.3	2.7	3.4	154 20 8.47	- - - -	29.900	50.8	42.0
	26		D.	5.00	7.56	10.36	13.06	15.32										
	27		E.	33.19	36.09	39.80	43.50	46.14										
	28		A.	32.24	36.05	38.45	41.47	45.10										
	29		B.	4.35	7.29	9.82	12.19	14.77										
	30	Anonymous	C.	35.38	38.33	40.59	42.71	44.90	11 51 37.42	2.0	26.3	3.2	3.4	163 41 8.72	VI. 41.875	29.898	50.5	41.9
	31		D.	5.58	8.69	11.60	- -	- -										
	32		E.	35.58	38.08	41.55	45.95	50.00										
	33		A.	47.79	51.88	54.06	56.75	0.52										
	34		B.	19.59	22.25	24.51	26.85	29.95										
	35	Anonymous	C.	50.62	52.51	54.95	57.47	59.48	12 26 55.08	6.1	9.8	8.0	7.9	161 29 8.45	VI. 40.550	- - -	- - -	- -
	36		D.	20.05	23.02	25.32	27.81	30.48										
	37		E.	49.40	52.42	56.05	0.00	3.22										
	38		A.	13.10	16.60	19.60	22.41	26.07										
	39		B.	44.90	47.72	49.91	52.61	55.22										
	40	Anonymous	C.	15.64	17.96	20.23	22.46	24.72	12 34 20.25	- -		- -	-	- - -	VI. 39.548	29.904	49.8	41.0
	41		D.	45.03	47.70	50.62	53.15	55.51										
	42		E.	14.21	17.11	21.00	24.88	27.79										
	43		A.	56.61	1.08	4.51	7.70	12.00										
	44		B.	34.42	37.55	40.84	43.42	46.46										
	45	12 Canum Venati.	C.	11.22	13.90	16.81	19.61	22.10	12 49 16.78	2.9	28.1	5.0	4.6	178 4 10.15	- - - -	- - -	-	-
	46		D.	46.35	49.49	52.87	56.10	59.10										
	47		E.	21.31	25.27	29.52	33.83	37.53										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Apr. 15 13	− 0 18.79	+ 0.019	− 0.664	+ 0.680	− 0.039
23 12	− 0 9.40	+ 0.013	− 0.659	+ 0.723	− 0.126

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.81	− 18.78	+2 6.34	−1 7.45	128 34 0.61	- -	13 17 25.00	−10 22 20.14	− 7.37	+43.80	D. M.	3. Unsteady.
4												
5												
6												
7												
8	+ 0.10	− 18.78	+ 19.41	+ 11.47	188 59 34.48	- -	13 41 43.91	+50 3 13.73	− 6.45	+38.34		
9												
10												
11												
12	- - -	- - -	- - -	- - -	- - -	40.558	- - - -	- - - - -	- -	- -		12. Nadir not very good.
13												
14												
15												
16	+ 0.46	− 9.41	− 8.34	+ 25.79	201 29 25.45	40.399	10 54 34.29	+62 33 4.70	− 8.85	+27.71		16. Steady.
17												
18												
19												
20												
21	− 15.47	9.40	+ 17.01	−3 32.84	103 1 51.42	- -	11 31 1.07	−35 54 29.33	− 6.98	+52.19		
22												
23												
24												
25	− 0.59	− 9.40	- - -	- -	- - - -	- -	11 41 31.28	- - - -	− 6.93	- -		25. Steady.
26												
27												
28												
29												
30	+ 2.55	9.40	− 50.63	− 14.89	163 40 3.20	- -	11 51 30.57	+24 43 42.45	− 7.09	+40.21		30. Not good.
31												
32												
33												
34												
35	− 0.53	9.39	− 5.18	− 17.35	161 28 45.92	- -	12 26 45.16	+22 32 25.17	− 6.96	+40.80		
36												
37												
38												
39												
40	− 0.53	− 9.39	+ 29.19	− 17.33	161 29 20.31	- -	12 34 10.33	+22 32 59.56	− 6.93	+40.64		40. Rather unsteady.
41												
42												
43												
44												
45	− 0.23	− 9.39	−1 44.12	+ 0.20	178 2 26.24	- -	12 49 7.16	+39 6 5.49	− 6.92	+37.99		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	55.58	59.94	3.65	6.68	10.58										
	2		B.	33.35	36.62	39.71	42.52	45.42										
Apr. 23	3	Anonymous	C.	9.78	12.64	15.70	18.24	21.00	12 49 15.53	- -	- -	- -	- -	- - -	VI. 43.434	29.910	49.6	53.0
	4		D.	45.25	48.00	51.61	54.60	57.75										
	5		E.	19.94	23.65	27.92	31.92	36.29										
	6	Polaris S. P.	C.	25.00	47.00	8.00	34.00	56.00	12 59 10.00	0.5	23.0	1.4	1.1	230 23 6.50	VI. 39.121	29.920	50.0	42.0
	7		A.	17.61	20.83	23.42	26.20	29.33										
	8		B.	47.28	49.58	51.80	53.85	56.26										
	9	B.A.C. 4547	C.	15.31	17.46	19.56	21.42	23.60	13 30 19.60	4.0	26.6	6.0	4.3	136 28 10.22	VI. 41.830	29.825	49.5	41.0
	10		D.	42.56	44.81	47.74	49.97	52.50										
	11		E.	9.71	12.49	15.58	19.29	21.98										
	12		A.	16.49	21.63	26.00	29.85	34.88										
	13		B.	2.00	6.11	9.60	12.90	17.00										
	14	η Ursæ Majoris	C.	46.12	49.98	53.32	56.21	59.71	13 41 53.18	1.7	25.7	2.1	1.8	189 2 7.82	VI. 45.290	29.825	49.4	40.5
	15		D.	29.40	32.69	37.18	40.80	44.18										
	16		E.	11.14	15.06	20.47	26.18	30.60										
	17		A.	7.29	15.54	21.74	27.37	34.80										
	18		B.	16.58	22.95	28.06	33.00	39.35										
	19	α Draconis	C.	24.05	28.95	34.21	39.28	44.54	14 0 34.43	59.8	82.7	59.4	58.1	204 2 5.00	VI. 42.411	- -	- -	- -
	20		D.	29.12	34.80	40.82	46.81	51.35										
	21		E.	32.90	39.87	47.55	56.61	3.12										
	22									55.6	79.5	55.2	56.5	357 50 1.70				
	23	Nadir	- -	- -	- -	- -	- -	-	- - - -	55.8	79.4	55.3	55.9	1.60	VI. 40.445	29.820	49.1	40.6
	24									55.7	79.0	55.5	55.4	1.40				
	25		A.	3.00	18.00	56.00	36.00	42.00										
	26		B.	8.00	49.00	15.00	32.00	14.00										
	27	Polaris	C.	30.00	49.00	15.00	33.00	1.00	1 58 18.32	61.4	58.8	59.4	55.1	227 23 58.67	VI. 40.181	29.888	55.0	52.0
	28		D.	8.00	36.00	16.00	56.00	17.00		61.8	58.7	59.1	54.6	58.55		29.880	55.0	53.0
	29		E.	45.00	28.00	38.00	1.00	52.00										
	30									65.2	61.4	60.2	59.8	357 51 1.65				
	31									62.4	60.8	60.2	60.5	0.97				
24	32	Nadir	- -	- -	- -	- -	- -	- -	- - -	63.5	60.9	60.1	60.2	1.18	VI. 40.800	- -	- -	- -
	33									64.8	61.6	60.0	60.4	1.70				
	34		A.	24.22	29.49	32.95	36.77	41.52										
	35		B.	6.40	10.35	13 50	16.42	20.18		63 8	64.4	62.1	58.4	184 42 2.18				
	36	α Aurigæ	C.	47.48	50.50	53.57	56.78	59.80	5 5 53.63	65.2	64.1	62.5	57.4	2.30	VI. 36.064	29.846	59.5	60.0
	37		D.	26.70	30.12	33.69	37.38	40.29		65.4	64.1	62.2	58.8	2.62				
	38		E.	5.64	9.55	14.33	19.67	23.54										
	39									3.8	2.9	2.3	3.9	357 51 3.22				
	40	Nadir	- -	- -	- -	- -	- -	- -	- - - -	3.1	3.5	2.8	3.7	3.28	VI. 40.891	- -	- -	- -
	41									4.9	3.4	2.0	3.0	3.32				
	42		A.	33.00	43.00	24.00	8.00	18.00										
	43		B.	38.00	23.00	46.00	3.00	40.00		9.5	30.0	5.5	1.6	227 24 11.65				
26	44	Polaris	C.	58.00	18.00	41.00	2.00	31.00	1 5 45.16	10.4	32.5	4.9	2.0	24 12.45	VI. 40.480	29.800	60.0	51.4
	45		D.	37.00	7.00	46.00	25.00	48.00										
	46		E.	11.00	56.00	8.00	29.00	16.00										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Apr. 23	12	− 0 9.40	+ 0.013	− 0.659	+ 0.723	− 0.126
24	5	− 0 9.26	+ 0.010	− 0.659	+ 0.723	− 0.126

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	m. s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.23	— 9.39	- - -	- -	- - - -	- -	12 49 5.91	- - - -	— 6.92	- -	D. M.	
4												
5												
6	— 26.26	+6 12.93	+ 43.84	+1 17.00	230 25 7.34	-	13 4 56.67	+88 31 13.41	+ 8.19	—30.25		
7												
8												
9	— 0.82	+ 9.38	— 49.09	— 51.92	136 26 29.21	- -	13 30 9.40	— 2 28 51.54	— 7.28	+42.43		
10												
11												
12												
13												
14	+ 0.01	+ 9.37	—2 47.79	+ 11.65	188 59 31.68	- -	13 41 43.82	+50 3 10.93	— 6.48	+36.17		
15												
16												
17												
18												
19	+ 0.60	— 9.37	—1 9.02	+ 29.03	204 1 25.01	- -	14 0 25.66	+65 5 4.26	— 6.00	+34.03		
20												
21												
22												
23	- - -	- - -	- -	- - -	- - - -	40.399	- - - -	- - - -	- -	- -		
24												
25												
26												
27	+ 22.42	+6 16.27	+ 20.14	+1 7.66	227 25 26.41	40.768	1 4 57.01	+88 31 5.66	+ 7.80	—30.13		27. A little unsteady. After this observation, shortened the pendulum to the East Sidereal Clock, and set forward the minute-hand 6 minutes.
28												
29												
30												
31												
32	- -	. .	- - -	. . .	- - -	40.768	. - - -	- - - -	. .	-	J. M.	
33												
34												
35												
36	— 0.09	+ 9.26	+2 40.92	+ 6.87	184 44 50.16	- -	5 5 44.28	+45 50 29.41	— 7.23	—10.78		
37												
38												
39												
40	- .	- -	- - -	- - -	- - - -	40.743	.. - - -	. - - -	- -	- -		
41												
42												
43												
44	+ 22.41	- -	+ 9.02	+1 7.65	227 25 28.72	- -	- - - -	+88 31 7.97	- -	—29.32	D. M.	
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	46.78	50.39	53.00	55.46	58.98										
	2		B.	16.92	19.69	22.00	24.14	26.65										
Apr. 27	3	Sun, I.	C.	46.42	48.48	51.00	53.07	55.40	2 19 50.85	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	14.58	17.14	19.78	22.42	24.55										
	5		E.	42.89	45.14	48.52	52.50	55.32										
	6		A.	58.59	1.51	4.12	6.82	9.90										
	7		B.	28.40	30.96	33.25	35.28	38.00										
	8	Sun, II.	C.	57.75	0.01	2.00	4.16	6.66	2 22 2.23	- -	- -	- -	- -	- - - -	- - -	- -	- -	-
	9		D.	26.00	28.23	31.14	33.88	36.03										
	10		E.	54.33	56.92	0.30	4.34	7.14										
	11		A.	- -	- -	- -	31.80	36.65										
	12		B.	3.71	8.17	11.23	15.40	18.20										
	13	α Persei	C.	47.25	50.30	53.94	57.28	0.62	3 14 6.43	32.5	58.0	30.3	26.0	188 28 36.76	VI. 38.441	29.800	60.2	53.9
	14		D.	29.38	32.93	36.72	40.82	43.97										
	15		E.	11.16	15.09	20.64	25.98	30.12										
	16		A.	- -	- -	- -	- -	- -										
	17		B.	0.32	3.11	5.28	7.52	10.29										
	18	α Tauri	C.	30.00	32.35	34.53	36.69	38.95	4 27 49.13	62.3	87.6	56.7	57.4	155 4 5.85	VI. 33.808	29.805	60.9	55.7
	19		D.	58.37	0.73	3.44	6.05	8.51										
	20		E.	26.90	29.79	33.07	36.79	39.82										
	21		A.	23.98	29.15	32.76	36.20	41.21										
	22		B.	6.23	9.99	13.17	16.22	19.76										
	23	α Aurigæ	C.	47.28	50.31	53.16	56.50	59.78	5 5 53.38	7.6	29.9	2.1	1.8	184 45 10.35	VI. 41.407	29.800	60.8	56.0
	24		D.	26.49	29.80	33.43	37.10	40.09										
	25		E.	5.46	9.31	14.38	19.51	23.31										
	26		A.	27.34	31.08	34.16	37.05	40.55										
	27		B.	59.60	2.22	4.45	6.87	9.42										
	28	Moon, I.	C.	30.34	32.65	35.03	37.32	39.66	9 17 34.98	- -	- -	- -	- -	- - - -	- - - -	- -	- -	-
	29		D.	0.18	2.44	5.19	8.18	10.46										
	30		E.	29.43	32.16	35.76	39.95	42.94										
	31									53.5	77.5	51.7	54.4	357 49 59.28				
	32	Nadir	- -	- -	- -	- -	- -	- -	- - - -	52.1	75.4	51.0	51.9	57.60	VI. 40.504	29.846	62.5	54.4
	33									53.3	56.3	50.5	52.1	- - - -				
	34		A.	18.00	34.00	12.00	54.00	6.00										
	35		B.	27.00	8.00	32.00	53.00	34.00										
28	36	Polaris	C.	47.00	11.00	35.00	56.00	23.00	1 6 36.36	28.0	48.8	23.0	19.5	227 25 29.82	VI. 40.852	29.935	62.0	66.0
	37		D.	39.00	59.00	39.00	17.00	38.00		28.0	47.6	23.4	14.9	28.48				
	38		E.	5.00	47.00	58.00	26.00	11.00										
	39		A.	27.41	31.11	33.59	36.40	39.81										
	40		B.	58.20	0.79	3.33	5.55	7.87										
May 1	41	α Tauri	C.	27.65	29.78	32.34	34.35	36.75	4 27 32.26	61.5	86.0	54.8	56.4	155 8 4.67	VI. 38.797	29.670	67.0	73.0
	42		D.	56.29	58.70	1.32	4.05	6.29										
	43		E.	24.47	27.37	30.69	34.68	37.71										
	44		A.	29.65	32.87	35.54	37.83	41.58										
	45		B.	59.22	1.81	3.87	6.30	8.71										
	46	β Orionis	C.	28.05	29.90	31.93	34.18	36.59	5 7 32.30	60.0	82.3	50.3	51.5	130 35 1.02	VI. 41.375	29.760	69.4	73.3
	47		D.	55.68	57.91	0.59	3.14	5.31										
	48		E.	23.15	25.82	29.23	32.82	35.73										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Apr. 27 4	− 0 9.29	0.000	− 0.659	+ 0.723	− 0.126
28 0	- - -	- - -	− 0.659	+ 0.723	− 0.126
May. 1 5	− 0 7.05	+0.030	− 0.659	+ 0.723	− 0.126

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.61	— 9.29	- - -	- - -	- - - -	- -	2 20 46.64	- - - -	- -	- -	D. M.	
4												
5												
6												
7												
8	— 0.61	— 9.29	- - -	- - -	- - - -	- -	- - - -	- - - -	- -	-		
9												
10												
11												
12												
13	— 12.34	— 9.29	+1 11.81	+ 10.81	188 29 59.38	- -	3 13 44.80	+49 33 38.63	— 6.43	—22.68		13. Not very good.
14												
15												
16												
17												
18	— 15.20	— 9.29	+3 51.21	— 23.91	155 7 33.15	- -	4 27 24.64	+16 11 12.40	— 5.54	— 9.89		
19												
20												
21												
22												
23	— 0.09	— 9.29	— 29.43	+ 6.94	184 44 47.86	- -	5 5 44.00	+45 50 27.11	— 7.20	—10.42		23. Steady.
24												
25												
26												
27												
28	+1 9.45	— 9.29	- - -	- - -	- - -	- -	9 18 35.14	- - - -	- -	- -		
29												
30												
31												
32	- - -	- - -	- - -	- - -	- - - -	40.549	- - - -	- -	- -	- -		
33												
34												
35												
36	+ 22.41	— 10.39	+1 6.08	- - -	227 26 24.84	- -	- - - -	+88 31 4.09	- -	—28.90		36. Rather steady.
37												
38												
39												
40												
41	— 0.59	— 7.07	+1 0.10	— 23.02	155 8 41.75	- -	4 27 24.60	+16 12 21.00	— 5.52	— 9.94		
42												
43												
44												
45												
46	— 0.89	— 7.05	— 28.34	— 59.67	130 33 33.01	- -	5 7 24.36	— 8 22 47.74	— 4.57	+ 0.26		46. Not steady.
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	51.78	55.73	58.65	1.54	5.31										
	2		B.	25.02	28.04	30.58	33.00	35.85										
May 1	3	β Tauri	C.	57.71	59.81	2.15	4.79	7.45	5 17 2.53	59.3	81.5	49.6	51.2	167 25 0.40	VI. 42.104	29.340	70.4	73.2
	4		D.	30.40	31.98	34.09	36.95	39.37										
	5		E.	59.48	2.46	6.52	10.58	13.91										
	6		A.	46.58	50.00	52.65	55.50	58.68										
	7		B.	16.19	18.88	21.12	23.02	25.56										
	8	Orionis	C.	44.58	46.72	48.90	50.88	53.23	5 28 48.94	60.5	83.5	51.7	52.3	137 38 2.00	VI. 38.980	29.635	70.8	73.5
	9		D.	11.92	14.30	16.90	19.49	21.66										
	10		E.	39.12	41.90	45.09	48.90	51.78										
	11	α Ursæ Majoris	-	- -	-	- -	- -	- -	- - - -	63.0	65.3	35.1	35.9	201 31 49.82	VI. 45.272	29.681	73.3	69.7
	12		A.	58.00	15.00	53.00	34.00	41.00										
	13		B.	2.00	46.00	10.00	27.00	9.00										
2	14	Polaris	C.	24.00	48.00	10.00	32.00	5.00	1 8 12.04	60.7	63.8	35.5	34.0	227 24 48.50	VI. 39.673	30.060	64.6	63.1
	15		D.	4.00	32.00	14.00	51.00	10.00										
	16		E.	39.00	24.00	29.00	58.00	46.00										
	17		A.	47.39	51.19	53.92	56.91	60.22										
	18		B.	19.21	22.04	24.48	26.81	29.60										
	19	α Arietis	C.	50.28	52.40	54.72	57.10	59.28	1 58 54.78	60.6	64.9	34.6	35.0	161 39 48.78	VI. 38.182	30.040	65.5	64.8
	20		D.	19.72	22.15	25.14	27.71	30.02										
	21		E.	49.08	52.04	55.66	59.68	2.71										
	22		A.	25.00	42.00	17.00	1.00	8.00										
	23		B.	30.00	9.00	39.00	57.00	37.00										
3	24	Polaris	C.	50.00	13.00	35.00	56.00	20.00	1 6 37.92	0.4	5.4	0.2	5.5	227 24 2.87	VI. 40.190	30.380	60.4	55.2
	25		D.	29.00	0.00	42.00	19.00	38.00		0.5	5.2	0.4	5.4	2.87				
	26		E.	4.00	50.00	59.00	25.00	13.00										
	27		A.	48.72	49.73	52.18	54.87	57.91										
	28		B.	16.45	19.21	21.25	23.56	26.03										
	29	Sun, H. N.	C.	46.29	48.40	50.64	52.50	55.25	2 44 50.79	74.3	78.5	53.0	52.6	154 47 4.60	VI. 37.217	30.030	66.1	66.0
	30		D.	15.44	17.12	19.99	22.36	24.65										
	31		E.	43.00	45.71	49.16	53.31	55.96										
	32		A.	14.57	19.93	24.04	27.90	33.17										
	33		B.	59.56	3.65	6.86	10.41	14.21										
	34	α Persei	C.	43.49	46.52	49.98	53.19	56.54	3 13 50.03	60.7	66.2	36.1	35.2	188 12 49.55	VI. 36.916	30.035	66.7	66.7
	35		D.	25.48	28.90	32.96	36.86	39.72										
	36		E.	6.92	11.29	16.32	21.98	26.29										
	37		A.	27.41	31.35	33.81	36.50	39.84										
	38		B.	57.53	0.00	2.31	4.51	7.05										
	39	β Orionis	C.	26.37	28.11	30.43	32.68	35.12	5 7 30.58	59.5	64.5	35.8	35.3	130 33 48.77	VI. 40.865	30.020	68.0	67.8
	40		D.	53.83	56.41	58.82	1.28	3.55										
	41		E.	21.18	23.85	27.35	31.21	34.02										
	42		A.	49.98	54.03	56.73	59.61	3.37										
	43		B.	23.32	26.17	28.62	31.05	34.03										
	44	β Tauri	C.	55.80	58.03	0.63	2.92	5.80	5 17 0.63	64.0	68.9	36.5	34.5	167 21 50.97	VI. 36.533	30.020	68.0	67.3
	45		D.	26.81	29.62	32.58	35.38	37.87										
	46		E.	57.65	0.53	4.75	8.61	11.91										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
May 1	5	− 0 7.05	+ 0.030	− 0.659	+ 0.723	− 0.126
2	5	− 0 6.31	+ 0.031	− 0.659	+ 0.723	− 0.126
3	7	− 0 5.60	+ 0.031	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.42	— 7.04	— 53.34	— 10.12	167 23 56.94	- -	5 16 55.07	+28 28 36.19	— 6.27	— 5.28	D. M.	
4												
5												
6												
7												
8	— 0.80	— 7.04	+ 53.82	— 46.38	137 38 9.44	- -	5 28 41.10	— 1 18 11.31	— 4.97	+ 2.60		
9												
10												
11	+ 0.34	— 6.28	— 2 42.02	+ 24.27	201 29 32.07	- -	5 48 26.10	+62 33 11.32	- -	+26.31		
12												
13												
14	+ 22.41	- - -	+ 30.05	+ 1 6.70	227 26 25.25	- -	- - - -	+88 31 4.50	. -	—27.69		14. Good.
15												
16												
17												
18												
19	— 0.21	— 5.75	+ 1 15.13	— 16.41	161 40 47.50	40.372	1 58 48.82	+22 45 26.75	— 5.33	—25.74		19. Unsteady.
20												
21												
22												
23												
24	+ 17.18	- - -	+ 6.24	+ 1 8.46	227 25 17.57	- -	- - - -	+88 30 56.82	- -	—27.54	J. M.	
25												
26												
27												
28												
29	—1 6.45	— 5.73	+16 22.85	—16 13.17	154 47 14.28	- -	2 43 38.61	+15 51 53.53	- -	- -	D. M.	29. Unsteady.
30												
31												
32												
33												
34	+ 0.16	— 5.72	+ 1 58.56	+ 10.39	188 14 58.50	- -	3 13 44.47	+49 19 37.75	— 6.46	—21.72		
35												
36												
37												
38												
39	— 0.47	— 5.66	— 16.91	— 10.82	130 32 31.04	- -	5 7 24.45	— 8 22 49.71	— 4.56	— 0.05		
40												
41												
42												
43												
44	— 0.14	— 5.65	+ 2 11.70	— 10.36	167 23 52.31	- -	5 16 54.84	+28 28 31.56	— 6.26	— 5.19		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	45.21	48.51	51.05	53.66	56.93										
	2		B.	14.25	16.83	19.18	21.30	23.82										
May 3	3	ε Orionis	C.	42.88	44.93	47.24	49.22	51.46	5 28 44.58	63.5	63.5	33.1	33.6	137 33 48.44	V. 38.414	30.015	68.0	67.6
	4		D.	10.10	12.62	15.16	17.82	19.89										
	5		E.	- -	37.50	40.05	43.30	47.11										
	6		A.	55.30	59.05	1.72	4.78	8.51										
	7		B.	28.21	31.36	33.48	35.90	38.75										
	8	Venus, S.	C.	59.94	2.20	4.92	7.46	9.44	5 54 4.94	60.0	62.8	33.8	33.5	165 27 47.52	VI. 39.123	30.012	68.0	67.0
	9		D.	30.81	33.50	36.26	39.29	41.73										
	10		E.	1.25	4.31	7.94	12.10	15.40										
	11		A.	46.08	50.00	52.63	55.29	59.72										
	12		B.	17.41	20.19	22.59	24.86	27.46										
	13	Mars, I. N.	C.	47.40	49.81	52.10	54.41	26.90	8 54 52.25	60.3	62.5	50.8	51.8	158 21 56.85	VI. 39.837	- -	- -	- -
	14		D.	16.76	19.02	21.81	24.71	27.05										
	15		E.	45.61	48.64	51.91	55.90	58.90										
	16									70.5	14.0	48.5	50.4	357 49 0.85				
	17	Nadir	- -	- -	- -	- -	- -	- -	- - - -	70.7	14.8	48.8	50.6	1.22	VI. 40.400	30.029	67.3	65.5
	18									70.4	14.1	48.1	50.6	0.80				
	19		A.	36.29	47.02	53.79	1.88	11.61										
	20		B.	3.43	10.82	17.30	24.08	31.42										
	21	λ Draconis	C.	27.51	33.79	39.72	45.91	52.75	11 22 39.92	60.0	66.9	55.3	54.6	209 5 59.20	VI. 40.840	30.080	64.1	56.6
	22		D.	47.32	54.96	2.41	9.80	16.06										
	23		E.	7.81	15.69	25.51	36.63	44.40										
	24		A.	18.82	21.59	24.48	27.02	30.38										
	25		B.	- -	52.25	53.62	56.02	58.68										
	26	ζ Crateris	C.	18.50	20.93	23.00	25.13	27.40	11 37 24.52	72.0	74.4	62.0	61.7	121 25 7.52	V. 40.832	30.096	63.6	55.8
	27		D.	47.21	49.40	52.12	54.91	57.21										
	28		E.	15.60	18.46	22.02	25.63	29.03										
	29		A.	37.09	41.09	43.84	46.69	50.16										
	30		B.	9.18	11.98	14.35	16.48	19.21										
	31	β Corvi	C.	39.75	41.91	44.05	46.61	49.33	12 26 44.53	56.4	65.1	52.5	51.7	116 23 56.42	- - - -	30.110	62.6	56.1
	32		D.	9.48	12.02	14.60	17.39	19.90										
	33		E.	39.00	41.80	45.47	49.42	52.50										
	34		B.	30.60	33.88	36.50	39.42	42.61										
	35		C.	7.04	9.68	12.73	15.51	18.21										
	36	12 Can. Venat.	D.	42.67	45.42	49.00	52.05	54.78	12 49 30.81	60.7	68.8	58.1	57.9	178 4 1.38	- - - -	- - -	-	- -
	37		E.	17.35	20.87	24.86	29.75	33.25										
	38		B.	29.21	32.59	35.10	38.02	41.34										
	39		C.	5.72	8.38	11.42	14.20	16.90										
	40	Anonymous	D.	41.10	44.09	47.60	50.69	53.99	12 49 29.51	- -	- -	- -	- -	- - - -	VI. 43.215	30.111	62.0	55.9
	41		E.	16.11	19.60	23.81	28.32	31.98										
	42	Polaris S. P.	C.	37.88	0.88	21.13	45.95	4.90	13 5 22.16	62.1	67.0	58.3	57.0	230 22 1.10	VI. 37.775	30.116	61.3	55.0
	43		A.	28.28	31.62	33.86	36.90	39.99										
	44		B.	58.24	0.42	2.51	5.09	7.60										
	45	α Virginis	C.	26.92	29.03	31.20	33.30	35.34	13 16 31.22	62.4	67.9	58.9	58.6	128 35 1.95	VI. 42.251	30.324	61.2	54.9
	46		D.	54.78	57.10	59.57	2.16	4.32										
	47		E.	22.11	24.74	28.50	32.09	34.85										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
May 3 7	− 0 5.60	+ 0 031	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 1.70	− 5.65	+4 0.17	− 47 51	137 37 1.10	. .	5 28 40.63	− 1 18 19.65	− 4.96	+ 2.40	D. M.	
4												
5												
6												
7												
8	+ 0.65	− 5.63	+ 42.57	+ 0.59	165 28 30.68	- -	5 53 59.96	+26 33 9.93	- -	-		
9												
10												
11												
12												
13	- - -	− 5.54	+ 27.45	− 21.19	158 22 2.61	. -	8 54 46.71	+19 26 41.86	- -	- -		13. Micrometer coincidence 40.075.
14												
15												
16												
17	- - - -	-	- - -	- - -	- - - -	40.372	- - -	- - - -	- -	- -		
18												
19												
20												
21	+ 0.89	− 5.47	− 16.05	− 35.01	209 5 8.14	- -	11 22 35.34	+70 9 47.39	− 9.13	+26 32		21. Steady.
22												
23												
24												
25												
26	− 2.00	− 5.46	+2 37.22	−1 26.56	121 26 18.18	- -	11 37 17.06	−17 29 2.57	− 6.87	+49.73		26. Unsteady.
27												
28												
29												
30												
31	− 0.61	− 5.43	+ 9.09	−1 45.58	116 21 19.93	- -	12 26 38.49	−22 35 0.82	− 7.31	+49.48		31. Unsteady.
32												
33												
34												
35												
36	− 18.10	− 5.42	-	- - -	- - - -	. -	12 49 7.29	- - - -	− 6.87	- -		
37												
38												
39												
40	− 18.10	− 5.42	−1 37.53	+ 0.22	178 2 24.07	- -	12 49 5.99	+39 7 3.32	− 6.86	+35.85		
41												
42	− 20.42	− 5.42	+1 29.09	+1 15.46	230 24 45.65	-	- - - -	- - - -	- -	- -		42. The results unreliable.
43												
44												
45	− 0.48	− 5.41	−1 4.46	−1 7.56	128 32 49.93	- -	13 16 25.33	−10 22 30.82	− 7.42	+44.22		45. Steady.
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	35.00	51.00	28.00	6.00	15.00										
	2		B.	39.00	22.00	47.00	6.00	45.00										
May 3	3	Polaris	C.	3.00	25.00	46.00	8.00	34.00	1 6 48.45	12.3	14.7	9.8	14.2	227 24 12.75	VI. 40.439	30.505	61.0	63.6
	4		D.	42.00	13.00	51.00	28.00	52.00										
	5		E.	14.00	59.00	8.00	33.00	21.00										
	6		B.	1.30	5.08	8.29	11.21	14.93										
4	7	α Aurigæ	C.	42.08	45.06	48.29	51.28	54.46	5 6 8.62	8.2	14.5	8.5	7.5	184 45 9.67	. . . .	30.366	62.5	60.9
	8		D.	21.35	24.68	28.61	32.12	35.20										
	9		E.	0.38	4.28	9.13	14.51	18.25										
	10		A.	26.31	30.29	33.19	36.17	39.81										
	11		B.	59.49	2.51	4.93	7.46	10.20										
	12	Venus, I. N. S.	C.	31.46	33.84	36.22	38.46	41.23	5 58 36.28	1.7	8.0	0.7	7.2	165 30 4.40	VI. 41.670	30.370	63.4	61.8
	13		D.	2.11	4.60	7.65	10.38	12.98		3.5	10.4	3.0	6.8	165 30 5.92	VI. 42.375			
	14		E.	32.60	35.61	39.35	43.65	46.67										
	15									60.5	64.6	56.2	67.3	357 48 2.15				
	16	Nadir		- - -	- - -	- - -	- - -	- - -	- - -	60.8	64.6	56.5	66.5	2.10	VI. 40.636	- -	- -	- -
	17									61.4	64.8	56.6	67.4	2.55				
	18		A.	23.80	27.50	30.19	32.82	36.16										
	19		B.	54.46	57.19	59.69	1.12	4.30										
5	20	α Tauri	C.	23.98	26.10	28.68	30.97	33.23	4 27 28.54	6.5	8.6	1.7	9.5	155 6 6.57	VI. 38.828	30.480	66.2	69.0
	21		D.	52.49	54.19	57.50	0.05	2.62										
	22		E.	21.00	23.69	27.05	30.96	33.81										
	23		A.	22.99	25.75	29.22	31.80	34.35										
	24		B.	55.73	58.29	0.50	2.48	4.62										
	25	β Orionis	C.	24.19	26.83	28.88	30.86	32.83	5 7 28.05	60.2	61.8	53.4	59.0	130 33 58.60	VI. 41.187	30.473	67.0	69.3
	26		D.	51.88	54.60	56.87	59.31	1.79										
	27		E.	19.48	21.82	25.19	29.08	34.02										
	28		A.	48.26	52.28	54.92	57.98	1.59										
	29		B.	21.47	24.45	26.78	29.38	32.30										
	30	β Tauri	C.	53.93	56.63	58.91	1.29	3.67	5 16 49.62	59.8	63.5	56.2	63.0	167 25 0.62	VI. 42.044	30.470	67.0	69.4
	31		D.	25.12	27.82	30.63	33.71	36.09										
	32		E.	55.70	58.69	- - -	- - -	- - -										
	33		A.	43.00	46.52	49.09	51.71	54.91										
	34		B.	12.50	15.12	17.31	19.50	21.93										
	35	ε Orionis	C.	41.11	43.12	45.39	47.39	49.80	5 28 45.31	60.5	65.2	53.9	62.4	137 37 0.50	VI. 38.932	30.467	67.2	69.3
	36		D.	8.35	10.71	13.21	15.71	18.00										
	37		E.	35.39	38.11	41.41	45.21	48.20										
	38	α Orionis	C.	8.40	10.17	12.22	14.70	17.14	5 47 12.53	60.0	63.1	56.2	63.0	146 19 0.57	VI. 41.707	30.459	67.2	69.4
	39		A.	18.81	24.79	28.89	33.27	38.85										
	40		B.	8.44	13.51	17.69	21.15	25.15										
	41	γ Ursæ Majoris	C.	58.00	1.59	4.93	8.90	12.75	11 46 5.54	64.2	68.0	65.1	70.3	193 29 6.90	VI. 43.925	30.445	64.0	56.0
	42		D.	45.14	49.49	53.69	58.18	1.91										
	43		E.	31.73	36.83	42.56	48.68	53.53										
	44		A.	12.15	15.82	18.69	21.47	24.71										
	45	4 Corvi	B.	42.80	45.72	47.75	50.19	52.51	12 8 2.40	8.6	14.5	6.0	10.1	122 13 9.80	VI. 40.270	30.438	63.0	55.0
	46		C.	13.00	14.83	16.91	19.37	21.60										
	47		D.	41.28	43.24	45.56	49.04	51.31										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
May 3	7	− 0 5.60	+ 0.031	− 0.364	+ 0.491	− 0.037
4	5	− 0 4.46	+ 0.040	− 0.364	+ 0.491	− 0.037
5	5	− 0 3.73	+ 0.037	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	m. s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 17.18	−2 10.39	+ 4.49	+ 1 7.68	227 25 24.92	40.570	1 4 55.24	+88 31 4.17	+ 4.56	−27.47	D. M.	3. Very unsteady.
4												
5												
6												
7												
8	− 20.07	− 4.46	-	- - -	- - - -	- -	5 5 44.09	. . .	− 8.14	- .	J. M.	-
9												
10												
11												
12	+ 0.64	− 4.42	− 37.73	− 10.25	165 29 16.42	-	5 58 32.50	+16 34 44.33	- -	- -		
13			−1 1.92	− 10.25	165 28 53.75							
14												
15												
16	- - -	- - -	- - -	- - -	- - - -	40.570	- - - -	- -	- -	. -		
17												
18												
19												
20	− 0.26	− 3.75	+ 56.29	− 23.83	155 6 39.03	. .	4 27 24.53	+16 12 18.28	− 5.52	−10.02	D. M.	20. Unsteady.
21												
22												
23												
24												
25	− 0.47	− 3.73	− 24.63	− 1 1.59	130 32 32.38	.	5 7 23.85	− 8 22 48.37	− 4.54	− 0.30		
26												
27												
28												
29												
30	+ 9.10	− 3.72	− 54.03	− 10.47	167 23 56.12	.	5 16 55.00	+28 28 35.37	− 6.24	− 5.12		30. Unsteady.
31												
32												
33												
34												
35	− 0.41	− 3.71	+ 52.73	− 48.07	137 37 5.16	. .	5 28 41.19	− 1 18 15.59	− 4.94	+ 2.20		35. Unsteady.
36												
37												
38	− 0.27	− 3.70	− 42.47	− 34.89	146 17 43.21	. .	5 47 8.56	+ 7 22 22.46	− 5.41	+ 3.48		38. Unsteady.
39												
40												
41	+ 0.27	− 3.48	−1 58.56	+ 16.34	193 27 24.68	. .	11 46 2.33	+54 32 3.93	− 7.58	+30.57		
42												
43												
44												
45												
46	+ 14.16	− 3.47	+ 6.83	− 1 25.22	122 11 51.41	. .	12 8 13.09	−16 43 29.34	− 7.07	+49.08		46. Steady.
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
May. 5	1	Nadir		- - - -	- -	- -	- -	- -	- -	58.4	58.2	52.3	61.2	357 49 57.52	VI. 40.395	30.440	62.2	54.3
	2									58.5	57.5	53.6	60.1	57.42				
	3		A.	5.00	24.00	0.00	45.00	51.00										
	4		B.	8.00	59.00	19.00	40.00	19.00										
6	5	Polaris	C.	59.00	55.00	20.00	40.00	22.00	1 5 21.24	59.8	58.5	55.3	58.4	227 25 58.00	- - - -	30.310	65.0	70.9
	6		D.	9.00	42.00	20.00	53.00	21.00										
	7		E.	47.00	31.00	43.00	7.00	52.00										
	8		B.	16.13	19.00	21.33	23.53	26 52										
	9		C.	47.19	49.32	51.61	54.16	56.54										
	10	α Arietis	D.	17.49	19.05	21.78	24.39	26.96	1 59 7.02	68.5	69.4	64.2	68.7	161 40 7.70	VI. 38.830	30.290	65.8	75.2
	11		E.	46.02	48.84	52.50	56.52	59.58										
	12		A.	- -	- -	- -	- -	- -										
	13		B.	48.86	51.46	53.70	55.88	58.52										
	14	α Hydræ	C.	17.51	19.81	22.00	24.00	26.32	9 20 36.20	62.5	62.0	55.0	59.5	130 52 59.75	V. 40.375	30.364	71.0	70.4
	15		D.	45 39	47.72	50.24	52.84	54.98										
	16		E.	12.77	15.36	18.99	22.46	25.32										
	17		A.	21.00	25.00	27.68	30.52	34.10										
	18		B.	53.31	56.32	58.51	0.99	3.72										
	19	ε Leonis	C.	24.66	26.86	29.39	31.71	34.18	9 37 29.38	62 2	64.5	57.7	61.9	163 24 1.57	VI. 39.130	30.364	71.0	68.9
	20		D.	54.71	57.21	0.00	2.90	5.22		63.7	63.8	58.8	65.5	2.95				
	21		E.	24.55	27.45	31.10	35.11	38.22										
	22		A.	28.54	32.03	34.77	37.24	40.70										
	23	α Leonis	B.	58.66	1.39	3.51	5.69	8.14	10 0 3.45	63.2	63.5	57.8	63.4	151 39 1.97	VII. 40.408	30.366	70.5	67.8
	24		C.	27.79	29.99	32.29	34.41	36.60		62.9	63.5	56.8	63.8	1.75				
	25		B.	26.61	29.36	31.70	34.00	36.41										
	26		C.	56.00	58.26	0.41	2.61	4.98										
	27	δ Hydræ et Crateris	D.	24.30	26.70	29.29	32.00	34.16	11 12 14.97	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	28		E.	52.26	54.75	58.40	2.20	4.95										
	29		A.	25.00	28.00	31.14	33.40	37.14										
	30		B.	54.08	57.44	59.80	1.94	4.58										
	31	α Virginis	C.	24.22	26.22	28.30	30.56	32.62	13 17 28.26	- -	- -	- -	- -	- - - -	- - - -	-	- -	- -
	32		D.	51.60	53.84	56.51	59.39	1.69										
	33		E.	19.28	22.80	25.58	29.30	32.10										
	34									62.2	62.7	58.3	65.9	357 51 2.27				
	35	Nadir		- -	- -	- -	- -	- -	- - -	61.3	63.0	58.7	66.2	2 30	VI. 40.602	- -	- -	- -
	36									61.8	63.2	58.2	65.3	2.12				
	37		A.	22.36	25.67	28.60	31.20	34.62										
	38		B.	52.76	55.77	58.00	0.44	2.80										
7	39	α Tauri	C.	22.70	24.80	27.13	29.30	31.48	4 27 23.43	30.9	30.9	24.3	31.5	155 7 29.40	VI. 40.486	30.228	69.7	80.8
	40		D.	-	-	- -	58.17	1.00										
	41		E.	19.19	22.00	25.67	29.53	32.27										
	42	β Orionis		- -		- - - -	- -	- -	- - -	40.5	40.1	35.5	40.5	130 33 39 15	VI. 39.993	30.228	72.1	81.0
	43		A.	46.45	50.40	53.22	56.31	0.08										
	44		B.	20.10	22.84	25.27	27.73	30.64										
	45	β Tauri	C.	52.25	54.82	57.22	59.75	2.11	5 16 57 30	50.5	51.0	46.0	56.0	167 23 50.87	VI. 39.532	30.213	72.6	80.7
	46		D.	23.38	26.22	29.12	31.82	34.45										
	47		E.	54.47	57.47	1.25	5.47	8.60										

CORRECTIONS, &c.

Date.			Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.	d.	h.	m s.	s.	s.	s.	s.
May	5	5	− 0 3.73	+ 0.037	− 0.364	+ 0.491	− 0.037
	6	9	− 0 2.68	+ 0.029	− 0.364	+ 0.491	− 0.037
	7	7	− 0 2.12	+ 0.021	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- -	- - -	- - -	- - -	- - - -	40.469	- - - -	- - - -		- -	D. M.	
2												
3												
4												
5	+ 17.18	- - -	+ 16.46	+ 1 6.26	227 27 20.72		- - - -	+88 30 59.97	- -	−26.93		
6												
7												
8												
9												
10	− 15.43	− 2.87	+ 58.53	− 16.24	161 40 49.99	-	1 58 48.72	+22 45 29.24	− 5.39	−25.78		9. Unsteady and blurred.
11												
12												
13												
14	− 14.64	− 2.67	+ 2 58.52	− 1 0.48	130 54 57.79	- -	9 20 18.89	− 8 2 22.96	− 5.88	+39.73	J. M.	
15												
16												
17												
18												
19	− 0.18	− 2.66	+ 48.23	− 14.62	163 24 35.87	- -	9 37 26.54	+24 27 15.12	− 6.88	+30.39		
20												
21												
22												
23	+ 28.49	− 2.65	− 2 55.17	− 28.06	151 35 38.63	- -	10 0 29.29	+12 38 17.88	− 6.57	+36.48		
24												
25												
26												
27	− 14.98	− 2.61	- - - -	- - - -	- - -	- -	11 11 57.38	- - - -	− 6.61			
28												
29												
30												
31	− 0.48	− 2.55	- - - -	- - - -	- - - -	- -	13 17 25.23	- - - -	− 7.42	- -		
32												
33												
34												
35	- - -	- - -	- - - -	- - - -	- - - -	40.556	- - - -	- - - -	- -	- -		
36												
37												
38												
39	+ 3.35	− 2.18	− 2.71	− 23.14	155 7 3.55	40.407	4 27 24.60	+16 11 42.80	− 5.52	−10.06	D. M.	39. Unsteady.
40												
41												
42	- -	- -	+ 14.20	− 59.76	130 32 53.59	- -	- - - -	− 8 22 27.16	- -	− 0.60		
43												
44												
45	− 0.14	− 2.16	+ 30.02	− 10.18	167 24 10.71	- -	5 16 55.00	+28 28 49.96	− 6.23	− 5.04		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	8.24	11.77	14.38	17.00	20.09										
	2		B.	38.06	40.68	42.91	44.82	47.66										
May 7	3	α Orionis	C.	6.47	8.82	11.06	13.09	15.39	5 46 56.81	60.5	60.3	54.3	63.5	146 17 59.65	VI. 39.341	201	73.9	80.2
	4		D.	34.00	36.53	39.30	41.83	44.00										
	5		A.	51.31	55.26	58.04	1.00	5.00										
	6		B.	24.32	27.50	30.02	32.36	35.05										
	7	Venus, I.	C.	56.44	58.94	1.19	3.62	6.22	6 12 1.29	60.2	59.8	56.4	60.8	165 30 59.30	VI. 43.305 VI. 44.050	202	74.2	80.0
	8		D.	27.30	29.72	32.83	35.45	37.90										
	9		E.	57.62	0.58	4.29	8.56	11.77										
	10		A.	27.60	31.34	34.00	36.76	40.00										
	11		B.	58.00	0.88	3.06	5.24	7.78										
	12	α Leonis	C.	27.02	29.11	31.52	33.72	35.91	10 0 31.60	63.5	64.2	58.5	63.4	151 35 2.40	VI. 36.763	-	- -	- -
	13		D.	55.34	57.60	0.31	2.96	5.06										
	14		E.	22.92	25.79	29.27	33.00	35.77										
	15									60.0	61.0	57.4	60.2	357 49 59.65				
	16	Nadir	- -	- -	- -	- -	- -	- -	- - -	60.1	61.2	57.7	60.2	59.80	VI. 40.401	180	69.0	68.0
	17									61.0	61.3	58.0	60.1	60.10				
	18		A.	10.00	13.78	16.32	19.00	22.74										
	19		B.	41.44	44.14	46.52	48.84	51.55										
	20	δ Leonis	C.	12.00	14.31	16.66	18.88	21.20	11 6 16.61	64.0	64.1	57.6	63.7	160 18 2.35	VI. 42.723	175	69.2	66.0
	21		D.	41.18	43.77	46.55	49.39	51.70										
	22		E.	10.24	13.32	17.08	20.91	23.80										
	23		A.	42.09	47.40	50.80	54.08	58.09										
	24		B.	20.09	24.20	27.30	29.83	33.04										
13	25	12 Canum Venat.	C.	57.51	0.09	2.71	5.69	8.41	12 49 2.93	63.8	63.5	62.0	64.1	178 5 63.35	VI. 44.560	30.125	65.5	56.4
	26		D.	32.62	35.44	39.28	42.48	45.30										
	27		E.	7.53	11.00	15.58	20.01	23.84										
	28		A.	43.91	48.53	52.00	55.34	59.36										
	29		B.	22.00	25.45	28.40	31.08	34.30										
	30	α Canum Venat.	C.	58.82	1.45	4.13	6.80	9.70	12 49 4.34	- -	- -	- -	- -	- -	- - - -	- -	- -	
	31		D.	33.85	36.86	40.39	43.69	46.47										
	32		E.	8.72	12.25	17.00	21.65	25.30										
	33		A.	19.85	23.40	26.12	28.64	32.00										
	34		B.	49.80	52.42	54.44	56.62	58.78										
	35	α Virginis	C.	18.91	20.69	22.88	24.88	27.18	13 17 23.02	5.9	5.8	3.7	6.6	128 36 5.50	VI. 43.950	30.120	64.2	55.8
	36		D.	46.52	49.08	51.20	54.00	56.18										
	37		E.	14.00	16.81	20.37	23.88	26.86										
	38		A.	3.80	9.70	13.17	17.51	22.56										
	39		B.	49.80	53.91	57.22	0.29	4.75										
	40	η Ursæ Majoris	C.	33.90	37.50	40.60	43.95	47.52	13 41 40.91	1.5	1.5	0.2	3.0	190 0 1.55	VI. 41.514	30.119	62.7	55.1
	41		D.	17.31	20.42	24.54	28.21	31.84										
	42		E.	58.95	3.47	8.76	14.45	18.55										
	43		A.	47.10	50.58	53.78	56.40	59.49										
	44		B.	18.36	20.90	23.35	25.65	28.62										
	45	α Bootis	C.	48.78	51.30	53.26	55.44	57.83	14 8 53.29	57.6	57.4	55.3	58.5	158 50 57.20	VI. 35.470	30.120	61.6	54.0
	46		D.	17.79	20.29	22.95	25.72	28.00										
	47		E.	46.58	49.61	53.00	57.31	0.06										
16	48	Polaris	C.	45.00	5.00	30.00	49.00	17.00	1 7 29.20	61.5	55.0	56.3	59.6	227 25 58.10	VI. 41.648	29.820	70.2	76.0

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
May 7 7	− 0 2.12	+ 0.021	− 0.364	+ 0.491	− 0.037
13 13	+ 0 2.68	+ 0.032	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 13.87	− 2.15	+ 36.57	− 33.91	146 18 2.31	- -	5 47 8.53	+ 7 22 41.56	− 5.39	+ 3.36	D. M.	
4												
5												
6												
7	+ 0.66	− 2.14	−1 39.41	− 10.48	165 31 9.41	-	6 11 59.81	+26 35 35.88	- -	- -		7. Steady.
8			−2 4.97	− 10.48	30 43.85							
9												
10												
11												
12	− 0.29	− 2.06	+2 5.01	− 27.84	151 36 39.57	-	10 0 29.25	+12 41 18.82	− 6.56	+36.42		12. Steady.
13												
14												
15												
16	- -	- - -	- - -	- - -	- - - -	40.407	- - - -	- - - -	- -	- -		16. Mercury agitated.
17												
18												
19												
20	− 0.22	− 2.03	−1 19.45	− 17.96	160 16 24.94	- -	11 6 14.36	+21 20 4.19	− 6.95	+38.14		20. Steady.
21												
22												
23												
24												
25	− 0.01	+ 2.67	−2 22.47	+ 0.22	178 3 41.10	- -	12 49 5.54	+39 7 20.35	− 6.78	+33.85		
26												
27												
28												
29												
30	− 0.01	+ 2.67	- -	- - -	- - -	- -	12 49 7.00	- - - -	− 6.78	- -		30. Steady.
31												
32												
33												
34												
35	− 0.48	+ 2.69	−2 1.54	−1 7.05	128 32 56.91	- -	13 17 25.23	−10 23 23.84	− 7.41	+44.26		35. Steady.
36												
37												
38												
39												
40	+ 0.17	+ 2.70	− 37.98	+ 12.47	189 59 36.04	- -	13 41 43.78	+50 3 15.29	− 6.41	+31.05		40. Unsteady.
41												
42												
43												
44												
45	− 0.23	+ 2.72	+2 49.36	− 19.90	158 53 26.66	- -	14 8 55.78	+19 57 5.91	− 6.70	+39.47		45. Very unsteady.
46												
47												
48	− 20.41	- -	− 42.57	+1 4.54	227 26 20.07	- -	- - - -	+88 30 59.32	- -	−24.59		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
May 18	1	α Hydræ	- -	- -	-	- -	- -	- -	- - -	61.8	55.4	56.0	57.7	130 53 57.72	VI. 36.890	30.014	67.5	65.8
	2	ε Leonis	- -	- -	- -	- -	- -	- -	- - -	62.8	58.7	59.2	60.4	163 24 0.27	VI. 40.668	30.014	67.8	65.4
	3		A.	52.00	38.00	56.00	10.00	56.00										
	4		B.	21.00	44.00	24.00	0.00	32.00		62.8	56.3	62.5	64.5	230 21 1.52				
	5	Polaris, S. P.	C.	36.00	55.00	19.00	49.00	6.00	13 5 4.35	62.4	56.7	62.2	62.5	0.95	VI. 36.014	30.034	64.1	58.8
	6		D.	19.50	0.00	22.00	48.00	28.00		61.9	56.2	61.7	61.8	0.40				
	7		E.	- -	58.00	42.00	16.00	33.00										
	8									62.4	59.4	58.4	65.3	357 51 1.37				
	9	Nadir	- -	- -	- -	-	- -	- -	- - -	65.5	60.4	60.4	65.1	2.85	VI. 42.300	- - -	- -	- -
	10									64.4	60.9	60.4	65.7	2.85				
	11		A.	28.50	32.30	35.00	37.69	41.11										
	12		B.	59.49	2.09	4.41	6.55	9.23										
21	13	α Canis Majoris	C.	29.17	31.48	33.73	35.76	38.03	6 38 33.59	58.8	53.7	49.5	53.0	122 26 53.75	VI. 41.063	30.260	65.8	69.0
	14		D.	57.70	0.00	2.65	5.27	7.62										
	15		E.	25.78	28.62	32.52	36.12	38.86										
	16		A.	33.70	37.80	40.57	43.72	47.33										
	17		B.	7.32	10.22	12.81	15.25	18.16										
	18	ε Canis Majoris	C.	39.65	42.15	44.61	47.11	49.81	6 52 44.73	59.3	51.3	51.0	53.5	110 11 53.77	VI. 40.347	30.260	66.1	68.0
	19		D.	11.22	13.76	16.64	19.73	22.21										
	20		E.	41.03	45.04	48.95	53.03	56.37										
	21		A.	35.00	19.00	- -	53.00	38.00										
	22		B.	2.00	23.00	0.00	38.00	9.00										
	23	Polaris, S. P.	C.	28.00	44.00	4.00	27.00	45.00	13 7 3.49		- -	- -	-	- - - -	- - -	- -	- -	- -
	24		D.	3.00	40.00	59.00	27.00	8.00										
	25		E.	30.00	39.00	23.00	49.00	8.00										
	26		A.	23.72	26.18	29.42	32.92	35.80										
	27		B.	49.48	52.52	54.74	56.74	59.51										
25	28	α Virginis	C.	18.42	20.57	22.66	24.90	27.38	13 17 23.77	63.2	50.0	47.6	51.9	128 34 53.17	- -	29.950	75.3	73.0
	29		D.	46.40	49.19	51.33	53.95	56.38										
	30		E.	14.10	16.80	20.22	23.94	27.08										
	31		A.	14.69	18.60	21.11	24.22	27.86										
	32		B.	47.49	50.56	53.26	55.45	58.21										
	33	α Coronæ Borealis	C.	19.43	21.81	24.28	26.40	29.18	15 28 24.39	57.1	54.8	55.0	59.9	166 11 56.70	VI. 39.635	29.961	73.1	70.0
	34		D.	49.95	52.78	55.72	58.58	1.11										
	35		E.	20.76	23.95	27.80	31.75	34.90										
	36		B.	26.05	27.58	29.35	31.65	34.45										
	37	α Serpentis	C.	53.65	55.87	57.80	59.90	2.17	15 37 12.03	59.5	57.9	57.5	62.0	145 47 59.22	- - - -	-	-	-
	38		D.	20.86	23.22	25.90	28.40	30.60										
	39		E.	48.65	51.31	54.27	58.08	0.91										
	40									53.2	51.5	49.0	56.8	357 49 52.62				
	41	Nadir	- -	- -	- -	- -	- -	- -	- - -	53.5	51.6	48.9	57.0	52.75	VI. 40.266	29.760	73.0	70.1
	42									53.3	51.5	49.3	56.8	52.72				
	43		B.	39.03	47.33	0.70	11.98	21.74										
	44	ζ Ursæ Minoris	C.	8.42	16.90	29.40	39.60	- -	15 48 25.47	59.7	57.8	56.8	61.4	217 12 58.92	VI. 43.210	29.961	73.0	70.2
	45		D.	22.31	33.80	46.78	58.98	9.69										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
May 21 7	+ 0 3.48	+ 0.004	− 0.364	+ 0.491	− 0.037
25 15	+ 0 2.66	− 0.020	− 0.364	+ 0.491	− 0.037

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1	- -	- -	+2 0.65	−1 0.28	130 54 58.09	- -	- -	− 8 1 22.66	- -	+39.06	J. M.	
2	- - -	- - -	− 8 95	− 14.55	163 23 36.77	- -	- - - -	+24 27 16.02	- -	+29.73		2. Unsteady.
3												
4												
5	+1 2.89		+2 30.70	+1 14.69	230 24 46.35	- -	- - - -	+88 31 34.40	- -	−24.29		5. A little unsteady.
6												
7												
8												
9	- -	- - -	- - -	- - -	- - - -	- -	- - - -	- - -	- -	- -		
10												
11												
12												
13	− 0.55	+ 3.48	− 20.03	−1 21.83	122 25 11.89	- -	6 38 36.52	−16 31 8.86	− 4.24	+18.65	D. M.	
14												
15												
16												
17												
18	− 0.67	+ 3.48	+ 4 53	−2 16.85	110 9 41.45	- -	6 57 47.54	−28 46 39.30	− 3.64	+20.69		18. Unsteady.
19												
20												
21												
22												
23	− 17.90	- - -	- - -	- - -	- - -		- - - -	- - - - -	- -	- -		23. Unfavorable night.
24												
25												
26												
27												
28	− 0.48	+ 2.69	+ 13.72	−1 4.39	128 34 2.50	- -	13 17 25.98	−10 22 18.25	− 7.36	+44.09		
29												
30												
31												
32												
33	− 0.15	+ 2.65	+ 28.95	− 11.50	166 12 14.15	- -	15 28 26.89	+27 15 53.40	− 6.60	+24.53		
34												
35												
36												
37												
38	− 14.49	+ 2.65	- - -	- - -	- - - -	- -	15 37 0.19	- - - -	− 7.33	- -		
39												
40												
41	- - -	- - -	- -	- - -	- - -	40.479	- - -	- - - -	- -	- -		
42												
43												
44	+ 3 61	+ 2 64	−1 33.68	+ 45.81	217 12 11.05	- -	15 48 31.72	+78 14 50.30	− 1.42	+17.99		
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	15.11	18.09	20.20	22.60	25.10										
	2		C.	45.37	47.69	50.00	52.10	54.49										
May 25	3	β^1 Scorpii	D.	14.59	16.65	19.59	22.17	24.57	15 57 4.12	11.5	10.1	7.8	12.2	119 33 10.40	VI. 39.021	29.962	73.0	70.3
	4		E.	41.65	43.15	46.15	49.62	53.49										
	5		A.	22.82	26.03	28.65	31.31	34.53										
	6		B.	52.03	55.00	57.15	59.22	1.80										
31	7	α Virginis	C.	31.08	33.29	35.59	37.80	39.97	13 17 25.61	57.9	56.7	56.7	58.5	128 36 57.45	VII. 40.582	29.986	70.6	64.9
	8		D.	48 95	51.36	53.84	56.56	58.83										
	9		E.	16.68	19.32	22.86	26.30	29.38										
	10		A.	35.00	37.70	41.40	43.92	47.17										
	11		B.	5.02	7.98	10.38	12.50	15.27										
	12	Jupiter, I.	C.	35.05	37.01	39.30	41.47	43.88	14 53 38.34	- -	- -	- -	-	- - - -	- - - -	- -	- -	- -
	13		D.	- -	5.03	8.23	10.86	13.38										
	14		E.	31.53	34.22	37.78	41.60	44.41										
	15		A.	2.19	5.86	8.32	10.82	14.14										
	16		B.	31.72	34.48	36.67	38.70	41.39										
	17	β Libræ	C.	90.69	2.81	4.94	7.04	9.32	15 9 5.07	66.0	62.8	61.8	67.0	130 9 4.40	VII. 38.510	- -	- -	- -
	18		D.	29.59	31.60	33.50	35.78	37.98										
	19		E.	55.69	58.25	1.86	5.36	8.30										
	20									58.0	57.2	57.0	58.1	357 49 57.54				
	21	Nadir	- -	-	- -	- -	- -	-	- - - -	58.1	57.0	56.6	58.1	57.45	VII. 40.450	29.973	67.2	61.9
	22									58.2	57.3	56.5	58.4	57.60				
	23		A.	33.40	37.01	39.72	42.50	45.90										
	24		B.	4.28	6.92	9.17	11.29	13.89										
June 3	25	α Canis Majoris	C.	33.84	36.06	38.30	40.41	42.86	6 38 38.35	61.4	62.3	62.0	62.4	122 26 2.02	VI. 41.391	29.751	80.8	94.0
	26		D.	2.45	5.00	7.40	10.08	12.48										
	27		E.	30.59	33.51	37.24	40.80	43.64										
	28		A.	31.44	34.98	37.62	40.16	43.41										
	29		B.	0.98	3.68	5.75	8.00	10.53										
	30	α Canis Minoris	C.	29.45	31.60	33.90	36.01	38.21	7 31 33.95	-	-	- -	- -	- - - -	VI. 40.658	30.740	84.0	90.2
	31		D.	57.06	59.58	1.98	4.50	6.81										
	32		E.	24.34	26.90	30.70	34.14	36.94										
	33		C.	10.94	13.24	15.63	17.99	20.72										
	34	β Geminorum	D.	41.80	44.61	47.37	50.33	52.81	7 36 47.62	60.0	61.8	60.6	61.3	167 20 0.92	VI. 43.528	- -	- -	- -
	35		E.	12.79	15.89	19.72	23.70	26.82										
	36									55.9	55.1	55.7	56.8	357 49 55.87				
	37	Nadir	- -	- -	- -	- -	- -	- -	- - - -	55.8	55.2	55.9	56.9	55.95	VI. 40.400	29.738	84.0	90.1
	38									55.7	55.4	56.2	56.6	55.97				
	39		A.	7.44	11.34	14.27	16.97	20.58										
	40		B.	39.47	42.39	44.73	47.16	49.78										
	41	Venus, I.	C.	10.89	13.00	15.37	17.70	20.14	7 55 15 38	60.0	61.8	60.9	61.5	61.05	VI. 39.812 VI. 38.872	29.718	84.9	91.4
	42		D.	40.58	43.02	45.70	48.50	50.87										
	43		E.	10.12	13.03	16.92	20.70	23.72										
	44		A.	11.48	16.95	20.80	24.80	29.75										
	45		B.	56.81	0.52	3.97	7.32	10.97										
4	46	α Persei	C.	40.22	43.49	46.50	49.83	53.45	3 13 46.86	59.5	59.1	59.3	56.4	188 16 58.57	VI. 44.367	30.088	68.2	61.0
	47		D.	22.18	25.76	29.81	33.52	36.88										
	48		E.	3.72	8.02	13.20	18.81	22.84										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.						
d.	h.	m. s.	s.	s.	s.	s.
May 25	15	+ 0 2.66	− 0.020	− 0.364	+ 0.491	− 0.037
31	14	− 0 0.20	− 0.020	− 0.364	+ 0.491	− 0.037
June 3	7	− 0 1.66	− 0.010	− 0.125	+ 0.330	+ 0.026
4	9	− 0 1.87	− 0.008	− 0.125	+ 0.330	+ 0.026

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 15.45	+ 2.64	+ 50.02	−1 30.08	119 32 30.34	- -	15 56 51.31	−19 23 50.41	− 8.52	+23.54	D. M.	
4												
5												
6												
7	− 0.48	− 0.19	−3 1.62	−1 5.53	128 32 51.45	- -	13 17 24.94	−10 23 29.30	− 7.33	+43.96		
8												
9												
10												
11												
12	+ 2.01	− 0.22	- - -	- - -	- - - -		14 53 40.13	- - - -	-	- -		
13												
14												
15												
16												
17	− 0.47	− 0.22	−1 50.54	−1 2.06	130 6 11.80	- -	15 9 4.38	− 8 50 8.95	− 7.88	+30.60		
18												
19												
20												
21	- - -	- - -	- - -	- -	- - - -	40.522	- - - -	- - -	- -	- -		
22												
23												
24												
25	− 0.19	− 1.66	− 29.91	−1 16.78	122 24 15.33	- -	6 38 36.50	−16 32 5.42	− 4.19	+16.40		
26												
27												
28												
29												
30	− 0.07	− 1.66	- -	- - -	- - -	- -	7 31 32.22	- - - -	− 5.43	- -		
31												
32												
33												
34	− 31.80	− 1.67	−1 43.22	− 9.87	167 18 7.83	-	7 36 14.15	+28 22 47.08	− 6.39	+14.72		
35												
36												
37	- - -	- - -	- -	- - -	- - -	40.519	- - - -	- - -	- -	- -		
38												
39												
40												
41	+ 1.17	− 1.67	+ 24.25 + 56.50	− 10.57 − 10.57	162 17 14.73 17 46.98	- -	7 55 14.88	+23 21 10.10	-	- -		
42												
43												
44												
45												
46	+ 0.30	− 1.82	−2 12.01	+ 10.51	188 14 57.07	- -	3 13 45.34	+49 18 36.32	− 7.07	−17.55		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	4.50	8.10	10.72	13.26	- -										
	2		B.	34.98	37.73	40.00	42.25	44.92										
June 4	3	Mercury, II.	C.	4.73	6.90	9.11	11.39	13.90	3 24 8.94	51.9	52.7	52.4	52.4	154 47 52.35	VI. 40.412 VI. 40.223	30.086	68.0	61.2
	4		D.	33.49	35.70	38.39	41.00	43.25										
	5		E.	1.50	4.33	8.08	11.73	14.67										
	6		A.	4.63	8.20	10.99	13.80	17.44										
	7		B.	36.25	39.29	41.67	43.91	46.53										
5	8	Sun, I.	C.	7.42	9.71	11.88	14.00	16.52	4 54 11.99	59.7	61.0	61.0	59.5	161 36 0.30	IV. 31.519	30.092	68.1	63.4
	9		D.	37.09	39.45	42.39	45.00	47.40		59.5	61.5	61.2	59.6	0.45				
	10		E.	6.74	9.54	12.90	16.93	19.95										
	11		A.	21.89	25.09	27.96	30.72	33.97										
	12		B.	53.67	56.55	58.66	1.05	3.74										
	13	Sun, II.	C.	24.40	26.70	29.11	31.30	33.68	4 56 29.11	-	-	-	-	- - - -	- - - -	-	-	- -
	14		D.	54.24	56.84	59.62	2.30	4.69										
	15		E.	23.66	26.05	30.43	33.92	37.27										
	16		A.	- -	- -	13.54	16.36	19.49										
	17		B.	37.48	40.25	42.25	44.44	47.00										
	18	α Orionis	C.	5.76	8.17	10.22	12.30	14.63	5 47 15.64	60.9	59.0	58.5	61.0	146 19 59.85	VI. 43.509	30.078	67.7	65.0
	19		D.	33.50	36.00	38.53	41.08	43.19										
	20		E.	0.78	3.52	7.23	10.60	13.50										
	21		A.	33.86	37.43	40.11	42.70	46.21										
	22		B.	4.39	7.18	9.29	11.64	14.50										
	23	α Canis Majoris	C.	34.37	36.16	38.52	40.82	42.99	6 38 38.62	59.0	59.4	56.4	54.2	122 25 57.25	VI. 41.223	30.061	67.9	65.6
	24		D.	2.80	5.22	7.85	10.36	12.60										
	25		E.	30.69	33.75	37.18	40.84	43.93										
	26		A.	38.65	42.62	45.45	48.50	52.12										
	27		B.	12.20	15.31	17.78	20.30	23.44										
	28	ε Canis Majoris	C.	44.78	47.06	49.52	51.90	54.69	6 52 49.62	60.9	58.1	58.6	56.4	110 10 58.50	VI. 40.530	30.058	68.0	65.0
	29		D.	15.87	18.63	21.64	24.38	26.58										
	30		E.	46.87	49.80	53.70	57.82	0.86										
	31	Venus, I.	- -	- -	- -	- -	- -	- -	- - - -	60.6	60.6	59.6	59.5	161 49 60.07	VI. 42.244	30.049	68.0	66.0
	32									60.4	60.7	59.5	59.4	161 49 60.00	VI. 42.235			
	33	α Virginis	- -	- -	- -	- -	- -	- -	- - - -	60.0	60.2	59.9	60.3	128 35 0.10	VI. 43.904	30.049	66.9	57.2
	34		A.	8.22	13.68	17.77	21.67	26.72										
	35		B.	53.84	58.19	1.31	4.62	8.47										
	36	η Ursæ Majoris	C.	38.49	41.46	44.79	47.95	51.58	13 41 45.00	66.6	67.1	66.3	67.9	189 2 6.97	VII. 41.629	30.039	65.0	56.3
	37		D.	20.83	24.46	28.63	32.52	35.68										
	38		E.	3.44	7.03	12.75	18.12	22.72										
	39		A.	51.63	55.38	57.90	0.68	4.16										
	40		B.	22.84	25.78	27.84	30.17	32.88										
	41	α Bootis	C.	53.30	55.38	57.60	59.84	62.25	14 8 57.75	35.0	34 9	34.5	35.0	158 58 34.85	VII. 45.202	30.040	63.4	54.6
	42		D.	22.20	24.77	27.37	30.22	32.74										
	43		E.	51.10	54.14	57.81	1.38	4.42										
	44		A.	24.56	28.30	31.00	34.20	37.60										
	45		B.	57.57	0.58	3.00	5.24	8.27										
	46	ε Bootis	C.	29.64	32.07	34.42	36.74	39.48	14 38 34.57	62.9	64.9	64.8	65.3	166 38 4.47	VI. 41.325	30.028	62.2	63.8
	47		D.	0.85	3.30	5.98	8.85	11.42										
	48		E.	31.00	34.34	38 20	42.13	45.42										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
June 4 9	− 0 1.87	−0.008	− 0.125	+ 0.330	+ 0.026
5 9	− 0 1.87	−0.008	− 0.125	+ 0.330	+ 0.026

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.06	− 1.82	+ 3.67	− 20.85	154 47 35.17	- -	3 24 7.18	+15 51 17.78	- -	- -	D. M.	3. Very unsteady.
4			+ 10.39	− 20.85	47 41.89							
5												
6												
7												
8	+ 0.04	− 1.84	+13 52.25	−16 2.91	161 33 49.71	- -	4 55 18.75	+22 37 28.96	- -	- -		8. Wire doubtful.
9												
10												
11												
12												
13	+ 0.04	− 1.84	- - - -	- - - -	- - - - -	- -	- - - -	- - - - -	-	- -		
14												
15												
16												
17												
18	− 5.35	− 1.85	− 1 44.66	− 34.76	146 17 40.43	- -	5 47 8.44	+ 7 22 19.68	− 5.40	+ 1.13		18. Very unsteady.
19												
20												
21												
22												
23	− 0.19	− 1.85	− 26.24	−1 21.80	122 24 9.21	- -	6 38 36.58	−16 31 11.54	− 4.19	+15.96		23. Bad.
24												
25												
26												
27												
28	− 0.28	− 1.85	− 2.47	−2 16.71	110 8 39.32		6 52 47.49	−28 46 41.43	− 3.54	+17.50		28. Bad.
29												
30												
31			− 1 1.27	− 11.84	161 48 46.93							
32	- - -	- -	− 26.65	− 11.84	49 21.54	- -	- - -	+22 53 43.48	- -	-		31. Unsteady.
33	- -	- -	− 1 58.21	−1 6.66	128 31 55.23	- -	- - - -	−10 23 25.52	- -	+43.81		
34												
35												
36	+ 0.31	− 1.91	− 3 39.73	+ 11.36	188 58 38.60	-	13 41 43.40	+50 3 17.85	− 6.11	+26.11		
37												
38												
39												
40												
41	+ 0.02	− 1.91	− 5 42.31	− 19.82	158 52 32.72	- -	14 8 55.86	+19 57 11.97	− 6.64	+36.05		
42												42. Declination bad.
43												
44												
45												
46	+ 0.08	− 1.91	− 29.74	− 11.23	166 37 23.50	- -	14 38 32.74	+27 42 2.75	− 6.62	+27.06		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									55.5	54.9	55.1	55.4	357 48 55.22				
June 5	2	Nadir	- -	- -	- -	- -	-	- -	- - -	55.2	54.8	55.4	55.5	48 55.22	VI. 40.315	- -	- -	- -
	3									55.0	54.0	55.2	55.2	48 54.85				
	4		A.	-	7.00	- -	4.84	32.97										
	5		B.	- -	9.74	- -	9.22	35.80										
	6	Jupiter, I.	C.	- -	12.00	40.65	9.80	39.38	14 51 42.37	59.7	59.4	59.1	60.0	123 40 59.55	VI. 37.072	30.035	60.6	53.9
	7		D.	45.58	14.17	43.10	12.42	43.08										
	8		E.	48.92	16.72	45.28	14.94	46.07										
	9									60.6	62.5	60.0	59.9	161 10 0.75		29.820	76.3	71.0
7	10	Venus, S.	- -	- -	- -	- -	- -	- -	- - -	61.5	63.5	60.5	60.3	10 1.45	VII. 40.866	29.827	77.0	71.3
	11														VII. 43.105			
8	12	Mercury	- -	- -	- -	- -	- -	- -	- - - -	58.6	57.9	58.0	56.0	156 51 57.62	VII. 42.813	29.812	69.8	74.0
9	13	Sun, S.	- -	- -	- -	- -	- -	- -	- - - -	51.9	51.5	51.8	50.3	161 55 5.37	X. 43.462	29.815	71.5	74.6
	14									61.8	59.5	60.8	60.0	357 48 0.52				
	15	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.9	59.1	60.6	59.9	0.37	VI. 40.474	- -	- -	- -
	16									61.7	58.7	60.5	59.8	0.18				
	17		A.	21.31	28.78	34.32	40.10	47.19										
	18		B.	25.10	30.98	35.47	40.00	45.70										
10	19	α Ursæ Majoris	C.	27.11	31.20	36.03	40.70	45.33	10 54 36.49	54.1	51.1	54.0	50.6	201 27 52.45	- - - -	30.150	69.0	64.8
	20		D.	26.36	36.43	36.93	42.40	47.02										
	21		E.	25.26	31.00	38.62	46.30	52.53										
	22		A.	49.54	53.45	56.43	59.50	4.19										
	23		B.	25.40	28.51	31.11	33.64	36.84										
	24	B.A.C. 4686	C.	0.40	2.68	5.40	7.98	10.90	13 58 5.60	57.6	57.5	57.8	57.9	103 22 57.70	X. 44.915	30.205	64.4	58.9
	25		D.	33.76	36.83	39.88	43.38	45.80										
	26		E.	7.42	10.32	14.70	19.11	22.77										
	27		A.	31.00	35.10	37.88	40.46	44.46										
	28		B.	4.00	6.92	9.41	11.78	14.63										
	29	B.A.C. 4763	C.	35.63	38.30	40.83	43.22	45.63	14 14 40.84	59.2	59.3	58.0	59.5	111 22 59.00	IX. 40.158	- -	- -	- -
	30		D.	6.67	9.19	12.24	14.90	17.60										
	31		E.	37.29	40.23	44.05	48.00	51.46										
	32		A.	49.02	52.77	55.80	58.51	2.15										
	33		B.	22.72	24.92	27.22	29.71	32.62										
	34	Anonymous	C.	54.06	56.44	58.54	0.74	3.35	14 14 58.83	- -	- -	- -	- -	- -	- - - -	30.205	64.4	58.7
	35		D.	24.63	27.28	30.25	33.13	35.66										
	36		E.	55.24	58.14	2.10	6.18	9.25										
	37	α Libræ	A.	32.00	35.49	38.23	41.08	43.90	14 41 38.14	-	- -	-	-	- - - -	- - - -	- -	- -	- -
	38		A.	45.30	47.32	49.66	52.41	55.81										
	39		B.	13.78	16.58	18.81	20.83	23.70										
	40	α^2 Libræ	C.	43.60	45.70	47.91	49.85	52.00	14 42 47.99	61.6	62.3	61.7	61.6	123 29 1.80	VIII. 36.355	- -	- -	-
	41		D.	11.93	14.20	16.84	19.59	21.85										
	42		E.	40.05	42.78	46.42	49.98	52.97										
	43		A.	51.54	55.38	57.89	0.52	3.83										
	44		B.	21.93	24.70	27.03	29.16	31.86										
	45	Jupiter, I.	C.	51.49	53.56	56.00	58.10	0.32	14 49 55.93	58.5	58.7	58.5	57.5	123 49 58.30	IX. 40.423 IX. 40.232	30.220	64.3	57.4
	46		D.	19.90	22.23	24.52	27.18	29.45										
	47		E.	48.00	49.98	54.04	57.76	0.81										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
June 5	9	− 0 1.87	− 0.008	− 0.125	+ 0.330	+ 0.026
10	14	− 0 4.26	− 0.019	− 0.125	+ 0.330	+ 0.026

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- - -	- - -	- - -	- - - -	40.458	- - - -	- - - -	- -	- -	D. M.	
3												
4												
5												
6	- - -	— 1.92	+ 1 56.16	— 1 18.26	123 41 37.45	- -	- - - -	—15 13 43.30	- -	-		
7												
8												
9												
10	- - -	- - -	— 3 13.56	+ 4.58	161 6 52.12	40.458	- - - -	+22 12 31.37	- -	- -		9. Unsteady and cloudy.
11			— 4 30.36	— 18.33	156 47 8.93							
12	- - -	- - -	— 4 22.23	— 18.33	47 17.06	- -	- - - -	+17 52 52.24	- -	- -		11. Very unsteady.
13	- - -	- - -	—16 19.64	+15 32.58	161 55 4.31	- -	- - - -	+23 0 43.56	- -	- -		13. Steady.
14												
15	- - -	- - -	- - -	- -	- - - -	40.464	- - - -	- - -	- -	- -		15. Mercury tremulous.
16												
17												
18												
19	+ 0.57	— 4.20	- - -	- - -	- - - -	- -	10 54 32.86	- - - -	— 7.29	- -		
20												
21												
22												
23												
24	— 0.39	— 4.26	— 4 40.99	— 3 24.43	103 14 52.28	- -	13 58 0.95	—35 39 28.47	— 8.46	+47.30		
25												
26												
27												
28												
29	— 0.32	— 4.26	+ 58.45	— 2 11.11	111 21 46.34	- -	14 14 36.26	—27 32 34.41	— 8.33	+42.06		
30												
31												
32												
33												
34	— 0.32	— 4.26	- - -	- - -	- - - -	- -	14 14 54.25	- - - -	— 8.31	- -		
35												
36												
37	+ 57.99	— 4.27	- - -	- - -	- - - -	- -	14 42 31.86	- - - -	— 8.02	- -		
38												
39												
40	— 0.24	— 4.27	+ 6 4.48	— 1 20.09	123 33 46.19	- -	14 42 43.48	- - - -	— 8.02	-		
41												
42												
43												
44												
45	+ 1.28	— 4.27	+ 49.36 + 55.92	— 1 38.23 — 57.43	123 49 9.43	- -	14 49 52.94	—15 5 11.32	- -	- -		45. Tremulous.
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	5.80	9.43	12.03	14.53	17.83										
	2		B.	35.17	38.03	40 50	42.60	45.20										
June 10	3	β Libræ	C.	4.22	6.20	8.82	10.76	13.06	15 9 8.69	- -	- -	- -	- -	- -	- - - -	- - - -	- -	- -
	4		D.	32.08	34.13	36.89	39.47	41.86										
	5		E.	59.59	2.21	5.69	9.06	12.00										
	6									45.2	45.5	45.3	46.2	357 47 45.55				
	7	Nadir	-	- -	- -	- -	- -	- -	- -	45.1	45.5	45 6	46.4	45.65	IX. 41.353	- -	- -	- -
	8									45.4	45.4	45.4	46.7	45.72				
11	9	α^2 Libræ		-	- -	- -	-	- -	- - -	60.1	60.4	60.2	60.5	123 31 0.30	VI. 40.040	30 [illegible]2	68.0	60.7
	10		A.	57.40	0.80	3.53	6.05	9.42										
	11		B.	27.65	29.97	36.50	34.80	37.28										
	12	Jupiter, I., N. S.	C.	57.30	59.38	1.65	3.76	5.96	14 50 1.59	60.1	60.3	60.0	60.2	123 52 0.15	VIII. 42.927 VIII. 42.558	30 [illegible]1	67.0	60.0
	13		D.	25.28	27.91	30.45	33.30	35.50										
	14		E.	53.58	56.23	59.93	3.60	6.48										
	15		A.	31.47	34.80	37.40	39.93	43.02										
	16		B.	0.99	3.74	5.93	7.92	10.30										
	17	β Libræ	C.	29.98	32.09	34.09	36.37	38.65	15 8 34.21	60.0	60.1	60.1	60 2	130 7 0.10	VIII. 41.491	- -	- -	- -
	18		D.	57.43	59.90	2.57	5.16	7.45										
	19		E.	25.02	27.85	31.13	34.48	37.50										
	20	Nadir	- -		-	- -	- -	- -	- - - -	60.2	60.3	60.4	60.3	357 48 0.30	VIII. 40.175	30 [illegible]30	66.9	59.4
	21									60.3	60.1	60.5	60.6	0.38				
	22		A.	10.56	15.70	19.88	23.80	28.59										
	23		B.	56.20	0.34	3.78	6.80	10.75										
14	24	η Ursæ Majoris	C.	40.61	44.00	47.20	50.34	54.09	13 41 47.22	10.9	10.8	11.2	11.3	189 1 11 05	X. 41.210	30.288	75.3	74.2
	25		D.	23.15	26.70	30.47	34.69	37.95										
	26		E.	5.44	9.47	14.84	20.30	24.94										
	27		A.	49.27	52.90	55.76	58.55	2.00										
	28		B.	20.70	23.60	26.00	28.28	30.78										
15	29	Venus, I.	C.	51.00	53.30	55.28	58.90	0.20	8 27 55.80	58.5	57.5	55.0	56.1	159 33 56.52	IX. 44.065 IX. 44.868	30.154	84.0	90.4
	30		D.	20.58	22.88	25.46	27.87	30.55										
	31		E.	49.40	52.50	56.21	59.94	3.08										
	32		A.	2.90	6.92	9.50	12.30	15.57										
	33		B.	33.96	36.51	38.85	41.29	43.58										
	34	Jupiter, I.	C.	3.45	5.56	7.95	10.29	12.50	14 47 2.93	60.3	60.2	59.0	58.7	123 55 59.55	IX. 42.100	30.133	80.3	80.0
	35		D.	32.08	34.17	36.82	39.63	41.90										
	36		E.	2.69	6.12	- -	12.89	- -										
	37		A.	50.70	53.89	56.75	59.27	2.90										
	38		B.	20.40	23.00	25.40	27.35	30.14										
	39	β Libræ	C.	48.80	51.20	53.72	55.71	57.91	15 7 53.60	59.8	59.5	59.0	59.2	130 4 59.50	VIII. 37.904	30.126	80.1	80.0
	40		D.	17.07	19.24	21.60	24.42	26.70										
	41		E.	44.31	47.25	50.50	54.40	57.25										
	42		A.	5.80	9.73	12.64	15.58	19.13										
	43		B.	38.68	41.84	44.04	46.76	49.32										
	44	α Coronæ Borealis	C.	11.10	13.58	15.75	17.88	20 53	15 27 15.55	60.2	60.3	60.5	60.6	166 8 0.53	VIII. 39.303	30.135	80.0	79.9
	45		D.	41.57	44.28	46.92	49.92	52.45										
	46		E.	11.93	14.09	18.17	21.92	25.20										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
June 10	14	− 0 4.26	− 0.019	− 0.125	+ 0.330	+ 0 026
11	15	+ 0 30.24	+ 0.301	− 0.125	+ 0.330	+ 0.026
14	15	+ 0 56.00	+ 0.507	− 0.125	+ 0.330	+ 0.026
15	15½	+ 0 71.03	+ 0.588	− 0.125	+ 0.330	+ 0.026

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.20	− 4.28	- - -	- - -	- - - -		15 9 4.21	- - - -	− 7.90	-	D. M.	
4												
5												
6												
7	- -	- - -	- -	- - -	- - - -	41.862	- - -	- - - - -	- -	- -		
8												
9	- - -	- - -	+ 4.25	−1 20.02	123 29 44.53	40.164	- - -	−15 24 36.22	- -	+35.52		9. Circle reading evidently 1′ too large. Observed with west sidereal clock.
10												
11												
12	+ 1.28	+ 30.19	−1 34.78	−0 57.35	123 49 28.02	- -	14 50 33.06	−15 4 52.73	- -	-		
13												
14												
15												
16												
17	− 0.20	+ 30.28	− 45.52	−1 3.43	130 5 11.15	- -	15 9 4.29	− 8 49 9.60	− 7.90	+30.17		
18												
19												
20												
21	- - -	- - -	- - -	- - -	- - - -	40.164	- - - -	- - - -	- -	- -		
22												
23												
24	+ 0.31	+ 55.85	−3 31.58	+ 11.60	188 57 51.07	- -	13 41 43.38	+50 3 30.32	− 5.95	+24.35		24. Very unsteady.
25												
26												
27												
28												
29	+ 1.36	+ 66.97	−5 10.00	− 11.87	159 28 34.65	- -	8 29 4.13	+20 34 0.12	- -	- -		
30			−5 37.55	− 11.87	159 28 7.10							
31												
32												
33												
34	+ 6.62	+ 70.61	−4 2.59	− 53.74	123 51 3.22	- -	14 48 20.16	−15 3 17.55	- -	- -		34. Badly defined.
35												
36												
37												
38												
39	− 0.20	+ 70.81	+1 16.91	−1 0.54	130 5 15.87	- -	15 9 4.21	− 8 49 4.88	− 7.89	+30.00		39. Blurred.
40												
41												
42												
43												
44	+ 0.07	+ 71.00	+ 28.92	− 11.40	166 8 18.05	- -	15 28 26.62	+27 13 57.30	− 6.59	+20.18		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	- -	-	-	55. 50	58. 50										
	2		B.	16. 30	18. 93	21. 28	23. 49	25. 76										
June 15	3	α Serpentis	C.	44. 80	47. 32	49. 20	51. 46	53. 28	15 35 57. 44	60. 3	60. 4	60. 1	60. 0	145 50 0. 20	VIII. 40. 900	30. 134	79. 9	78. 8
	4		D.	12. 40	14. 71	17. 53	20. 29	22. 56										
	5		E.	39. 97	42. 13	46. 10	49. 50	52. 70										
	6									62. 8	62. 0	61. 3	63. 0	357 47 62. 27				
	7	Nadir	- -	- -	- -	- -	- -	- -	- -	62. 6	62. 3	61. 7	62. 8	62. 35	VI. 40. 214	-	- -	- -
	8									62. 5	62. 1	62. 3	62. 6	62. 37				
	9									33. 1	32. 3	31. 2	31. 1	160 43 31. 92	IX. 44. 634			
16	10	Mercury, II. N. S.	- -	- -	- -	- -	- -	- -	- - -	33. 4	31. 4	31. 6	30. 5	31. 72	IX. 44. 301	30. 081	85. 6	90. 2
	11									57. 0	59. 6	52. 6	57. 5	357 47 56. 67				
29	12	Nadir	-	- -	-	- -	- -	- -	- - -	57. 0	59. 5	52. 6	57. 7	56. 70	VI. 40. 926	- -	- -	- -
	13									57. 2	59. 6	52. 5	57. 5	56. 70				
	14		A.	58. 85	1. 85	4. 36	7. 20	10. 65										
July 2	15	Venus, I.	B.	28. 90	31. 85	34. 14	36. 27	38. 96	8 33 33. 89	59. 2	56. 2	53. 1	61. 9	155 50 57. 60	VI. 43. 169	29. 927	76. 2	73. 9
	16		C.	58. 94	0. 93	2. 27	4. 45	6. 74		59. 5	56. 4	53. 0	62. 4	57. 82	VI. 44. 343	29. 926	76. 0	73. 5
	17									60. 9	64. 9	55. 2	60. 4	357 48 0. 35				
	18	Nadir	- -	- -	- -	-	- -	- -	- - -	61. 5	64. 8	55. 0	60. 0	48 0. 32	VI. 41. 062	- -	- -	- -
	19									61. 2	64. 4	55. 0	59. 0	47 59. 90				
3	20	Sun, S.	- -	- -	- -	- -	- -	- -	- - -	60. 2	62. 9	55. 4	58. 0	161 50 59. 12	X. 43. 932	30. 124	75. 0	75. 0
	21		A.	18. 60	22. 39	24. 80	27. 70	31. 20										
	22		B.	49. 21	51. 96	54. 24	56. 50	59. 20							VI. 42. 982			
	23	Venus, I.	C.	18. 80	21. 22	23. 54	25. 62	27. 76	8 33 23. 46	60. 0	62. 0	54. 0	57. 4	155 38 58. 35	VI. 42. 491	30. 100	76. 6	78. 8
	24		D.	47. 70	49. 80	52. 49	55. 21	57. 80										
	25		E.	15. 81	18. 42	21. 94	25. 82	28. 70										
	26									59. 0	61. 3	51. 2	56. 7	357 48 57. 05				
	27	Nadir	- -	- -	- -	- -	- -	- -	- - -	58. 7	61. 0	51. 0	56. 5	56. 80	VI. 41. 224	- -	- -	- -
	28									58. 5	60. 7	50. 9	56. 4	56. 62				
	29		C.	39. 77	41. 82	- -	46. 36	48. 70										
6	30	α Canis Majoris	D.	8. 42	10. 83	13. 51	16. 17	18. 40	6 36 14. 02	- -	- -	- -	- -	- - - - -	- - -	- -	- -	-
	31		E.	- -	39. 30	42. 78	46. 48	49. 67										
	32		A.	- -	48. 80	51. 06	53. 71	57. 70										
	33		B.	16. 35	19. 42	21. 81	23. 93	26. 72										
	34	Sun, I. N.	C.	47. 42	49. 86	52. 20	54. 29	56. 72	7 2 52. 68	72. 8	74. 9	65. 2	67. 2	161 27 10. 02	II. 39. 352	30. 192	85. 0	88. 9
	35		D.	17. 23	19. 80	22. 47	25. 18	28. 30										88. 8
	36		E.	46. 82	- -	53. 37	57. 47	0. 80										
	37		C.	4. 12	6. 52	8. 87	11. 25	13. 62										
	38	Sun, II. S.	D.	33. 99	36. 67	39. 45	42. 22	44. 65	7 5 36. 80	- -	- -	- -	- -	- - - - -	X. 39. 352	- -	- -	- -
	39		E.	3. 48	6. 33	10. 00	14. 08	- -										
	40									64. 4	68. 2	57. 5	62. 4	357 48 3. 12				
7	41	Nadir	- -	- -	- -	- -	- -	- -	- - -	64. 5	67. 8	57. 2	62. 8	3. 08	VI. 41. 299	- -	- -	- -
	42									64. 9	68. 1	57. 4	62. 4	3. 20				

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
June 15 15½	+ 0 71. 03	+ 0. 588	− 0. 125	+ 0. 330	+ 0. 026
July 2 00	- - - -	- - -	− 0. 043	+ 0. 228	+ 0. 128
3 00	- - -	- -	− 0. 043	+ 0. 228	+ 0. 128
6 00	- - - -	- -	− 0. 043	+ 0. 228	+ 0. 128

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1											D. M.	
2												
3	− 8.17	+ 71.09	− 25.87	− 34.52	145 48 59.81	- -	15 37 0.36	+ 6 54 39.06	− 7.39	+22.48		3. Circle reading evidently 1′ in error.
4												
5												
6												
7	- - -	- - -	- - -	- - -	- - -	40.146	- - - -	- - - -	- -	- -		
8												
9			− 5 29.52	− 14.56	160 37 53.74							
10	- - -		− 5 18.10	− 14.56	160 37 59.16	-	- - - -	+21 43 35.70	- -	- -		9. Very unsteady,
11												
12	- - -	-	- - -	- - - -	- - -	41.023	- - - -	- - - -	- -	- -		
13												
14												
15	+ 31.22	- -	− 1 12.42	− 13.00	155 49 32.29	- -	- - - -	+16 54 51.40	- -	- -	J. M.	
16			− 1 52.69	− 13.00	48 52.02							
17												
18	- - -	- - -	- -	- - - -	- -	41.058	- - -	- - - -	- -	- -		
19												
20	- -	- - -	−16 6.11	+15 31.25	161 50 24.26	-	- - - -	+22 56 3.51	- -	- -		20. Chronograph not marking.
21												
22												
23	+ 1.88	- - -	− 57.46	+ 11.70	155 38 12.59	- -	- - - -	+16 43 51.84	-			23. Very unsteady.
24			− 40.62	− 37.54	37 40.19			+16 43 19.44				
25												
26												
27	- - -	- - -	- - -	- - - -	- - -	41.307	- - -	- - - -		- -	D. M.	27. Mercury unsteady.
28												
29												
30	− 29.90	- - -	- - -	- - - -	- -	- -	- - - -	- - - -	- -	-		
31												
32												
33												
34	− 0.29	- - -	+15 38.71	−15 58.45	161 26 50.28	- -	- - -	+22 32 29.53	- -	- -		34. Telescope moved during observation.
35												
36												
37												
38	− 27.49	- - -	−13 32.40	+15 31.31	161 29 8.93	- -	- - -	+22 34 47.18	-	- -		
39												
40												
41	- - -	- - -	- - -	- - - -	- - - -	41.208	- - -	- - - -	- -			
42												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	49.51	53.40	56.18	58.94	2.50										
	2		B.	21.41	24.44	26.82	29.20	31.92										
July 7	3	Mercury, I., N. S.	C.	52.67	55.10	57.50	59.62	2.02	7 51 52.51	8.8	12.2	2.4	4.8	161 45 7.05	VI. 40.590	30.178	85.1	91.2
	4		D.	22.51	25.11	27.88	30.67	32.95		8.8	12.4	1.8	5.6	7.15	VI. 40.730			90.0
	5		E.	- -	- -	58.78	2.78	5.72										
	6		A.	1.97	5.66	8.46	11.06	14 47										
	7	Venus, I., N. S.	B.	32.56	35.46	37.70	39.82	42.68	8 28 32.49	8.5	13.0	1.4	6.5	155 0 7.35	VI. 42.260	30.184	86.0	91.2
	8		C.	2.14	4.37	6.00	- -	- -		9.5	13.5	2.2	7.7	8.22	VI. 44.722			
	9		A.	- -	-	- -	- -	4.00										
	10	Polaris, S. P.	B.	28.00	50.00	29.50	8.50	38.00	13 54 23.68	64.5	64.8	59.5	59.3	230 21 2.02	VI. 39.115	30.156	87.0	87.0
	11		C.	48.00	12.00	32.50	55.00	15.50		64.2	65.4	59.0	60.5	2.28				86.8
	12									62.2	66.8	56.0	60.0	161 21 1.25	VI. 37.782	30.184	86.0	89.2
8	13	Mercury - -	- -	- -		- -	-	- -	- - -	62.4	66.6	56.8	61.8	1.90	VI. 37.930			89.9
	14									60.8	64.8	53.8	56.8	154 50 59.05	VI. 42.522	30.182	- -	89.8
	15	Venus - -	- -	- -	- -		- -	- -	- - -	61.2	63.9	53.9	57.8	59.20	VI. 43.980			90.1
	16									60.9	63.8	53.4	59.2	357 47 59.32				
	17	Nadir - -	- -	-	- -	- -	- -	- -	- - -	59.9	63.5	53.0	58.0	47 58.60	VI. 40.809	- -	- -	- -
	18									60.2	63.9	53.0	58.0	357 47 58.77				
	19		A.	10.00	56.00	17.00	36.00	14.00										
	20		B.	40.00	4.00	43.00	19.50	50.50										
	21	Polaris, S. P.	C.	3.00	26.00	46.00	7.50	28.50	13 5 41.64	59.8	60.0	54.4	53.4	230 20 56.90	VI. 38.582	30.130	86.8	86.5
	22		D.	43.50	22.00	43.00	5.50	51.00		58.9	59.9	54.2	55.0	57.00		30.131	86.8	86.4
	23		E.	10.00	16.50	58.50	38.00	53.00										
9	24	Mercury, I. - -	-	- -	- -	- -	- -	- -	- - -	59.6	63.4	53.1	55.9	160 12 58.00	VI. 38.481	30.165	84.0	86.5
	25		A.	- -	23.84	26.53	29.10	32.45										89.0
	26		B.	50.70	53.07	55.44	57.78	0.28										
	27	Venus, I. - -	C.	20.20	22.17	24.42	26.64	28.98	8 25 24.76	60.0	64.9	55.4	58 0	154 32 59.57	VI. 42.810	30.162	84.5	87.5
	28		D.	48.62	50.99	53.74	56.21	58.43							VI. 42.208			
	29		E.	16.68	19.10	22.80	26.75	29.32										
	30		B.	27.82	30.41	32.61	34.70	37.39										
	31		C.	56.65	58.75	0.77	2.85	5.27										
	32	α Hydræ - - -	D.	-	24.21	29.69	31.69	33.91	9 20 14.54	61.1	62.7	52.9	57.1	130 53 58.45	VI. 40.638	- -	- -	- -
	33		E.	51.75	54.08	57.89	1.37	4.46										
	34									59.6	61.6	51.9	57.0	357 47 57.52				
	35	Nadir - - - -	- -	- -	- -	- -	- -	-	- -	59.5	61.7	52.1	56.8	57.52	VI. 40.736	- -	- -	- -
	36									59.4	61.5	52.0	57.0	57.48				
	37		A.	7.42	10.89	13.72	16.18	19.63										
	38		B.	37.50	40.20	42.54	44.70	47.28										
	39	α Leonis -	C.	6.65	8.76	10.91	13.31	15.50	10 0 10.72	60.2	63.7	54.0	57.4	151 35 58.82	VI. 40.515	30.140	85.1	90.3
	40		D.	34.71	37.10	39.81	42.25	44.50										
	41		E.	2.72	5.15	8.80	12.40	15.37										
	42		A.	4.30	7.37	10.30	12.91	16.13										
	43		B.	33.86	36.65	38.78	41.04	43.43										
	44	α Virginis - -	C.	2.72	4.90	7.14	9.28	11.46	13 17 7.26	60.8	61.5	53.2	55.6	128 30 57.78	VI. 37.096	30.113	82.4	84.9
	45		D.	30.75	33.10	35.70	38.35	40.60										
	46		E.	58.47	0.80	4.41	8.18	10.90										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m s.	s.	s.	s.	s.
July 8 0	. .	. .	− 0.043	+ 0.228	+ 0.128
9 14	+ 0 17.76	+ 0 021	− 0.078	+ 0.272	+ 0.038

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 4.80	- -	+ 21.20	− 13.75	161 45 14.55	- -	- - - -	+22 50 51.78	- -	- -	D. M.	
4			+ 17.17	− 13.75	45 10.52							
5												
6												
7	+ 36.20	- - -	− 36.09	− 38.41	154 58 52.85	-	- - - -	+16 4 32.10	- -	- -		
8			−2 0.55	+ 13.65	154 58 21.32			+16 4 0.57				
9												
10	+10 51.14	- - -	+1 11.80	+ 1 11.04	230 23 24.99	- -	- - - -	+88 30 55.76	- -	−21.47		
11												
12			+1 45.04	− 14.16	161 22 32.45							
13	- - -	- - -	+1 39.89	− 14.16	161 22 27.30	- -	- - - -	+22 28 9.12	- -	- -		
14			− 57.63	− 12.41	154 49 49.08							
15	- - -	- - -	−1 47.65	− 12.41	154 48 59.06	- -	- - - -	+15 55 3.32	- -	- -		
16												
17	- - -	- - -	- - -	- - -	- - - -	40.842	- - - -	- - -	- -	- -		
18												
19												
20												
21	− 13.78	- - -	+1 17.53	+ 1 11.02	230 23 25.50	40.842	- - - -	+88 30 55.25	- -	−21.47		
22												
23												
24	- - -	- - -	+1 19.86	− 12.82	160 13 5.04	- -	- - - -	+21 18 44.29	- -	- -	J. M.	
25												
26												
27	+ 1.59	+ 17.64	+7 39.15	+ 14.08	154 40 52.80	- -	8 25 43.99	+15 46 32.05	- -	-		27. Steady.
28			+7 59.80	− 39.22	154 40 20.15			+15 45 59.40				
29												
30												
31												
32	− 13.85	+ 17.66	+ 5.87	− 57.77	130 53 6.55	- -	9 20 18.35	− 8 1 14.20	− 5.35	+33.81		
33												
34												
35	- - -	- -	- -	- - -	- - - -	40.809	- - - -	- - - -	- -	- -		
36												
37												
38												
39	+ 0.09	+ 17.68	+ 10.09	− 26.64	151 35 42.27	- -	10 0 28.49	+12 41 21.52	− 5.99	+33.40		39. Steady.
40												
41												
42												
43												
44	− 0.16	+ 17.75	+2 7.38	− 1 3.32	128 31 1.84	- -	13 17 24.85	−10 23 18.91	− 7.00	+42.28		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	59.82	5.97	10.60	15.30	21.04										
	2		B.	51.51	56.50	0.19	3.91	8.30										
July 9	3	B.A.C. 4568	C.	41.90	45.62	49.37	53.00	56.96	13 34 49.53	62.1	64.9	56.0	57.8	194 22 0.20	VI. 42.120	[illegible] 115	82.5	84.4
	4		D.	30.18	34.20	38.71	43.15	47.05										
	5		E.	18.12	22.45	28.78	34.96	39.81										
	6		A.	15.98	19.18	21.89	24.66	28.00										
	7		B.	46.49	49.36	51.62	53.81	56.61										
	8	η Bootis	C.	16.56	18.98	21.10	23.39	25.62	13 47 21.27	60.6	64.9	55.6	58.2	158 3 59.82	VI. 40.312	[illegible] 116	82.5	83.2
	9		D.	45.69	48.00	50.80	53.50	55.80										
	10		E.	14.49	17.00	20.91	24.81	27.46										
	11		A.	30.60	34.57	38.19	40.69	44.31										
	12		B.	2.90	5.82	7.95	10.37	13.05										
	13	α Bootis	C.	32.02	34.39	36.68	38.96	41.28	14 8 37.49	60.9	64.4	55.5	58.7	158 51 59.87	VI. 38.932	[illegible] 116	82.6	82.6
	14		D.	2.33	4.60	7.36	10.10	12.47										
	15		E.	31.25	34.00	37.66	41.37	44.28										
	16		A.	3.94	7.88	10.86	13.82	17.49										
	17		B.	37.43	40.49	43.00	45.28	48.25										
	18	B.A.C. 4784	C.	9.80	12.30	14.80	17.07	19.60	14 19 14.82	59.6	60.8	50.8	54.5	110 3 56.42	VI. 38.836	[illegible] 112	82.3	81.6
	19		D.	40.96	43.58	46.49	49.51	51.97										
	20		E.	12.20	15.30	19.12	23.12	26.27										
	21		A.	4.43	8.31	11.18	14.20	17.86										
	22		B.	37.53	40.65	42.86	45.50	48.30										
	23	ε Bootis	C.	9.60	12.16	14.58	16.65	19.15	14 38 14.60	61.5	65.5	55.7	60.6	166 36 0.82	VI. 39.574	30.109	82.1	81.0
	24		D.	40.50	43.49	46.00	49.14	51.49										
	25		E.	11.50	14.30	18.11	22.19	25.35										
	26		A.	20.09	23.50	26.25	28.95	32.35										
	27		B.	50.50	53.10	55.32	57.38	0.10										
	28	Jupiter, I., N. S.	C.	19.80	21.90	24.23	26.39	28.65	14 44 24.29	58.7	64.6	53.0	57.4	124 2 58.42	VI. 39.023 VI. 39.184	30.108	82.0	79.8
	29		D.	48.21	50.62	53.00	55.80	58.18										
	30		E.	16.29	18.77	22.46	26.20	29.20										
	31		A.	6.66	22.70	35.58	48.44	3.70										
	32		B.	30.32	43.30	53.41	3.80	16.22										
	33	ζ Ursæ Minoris	C.	51.20	0.35	11.12	21.50	31.77	15 49 11.59	57.0	59.5	54.1	56.9	217 8 56.87	VI. 41.316	30.109	81.3	77.0
	34		D.	4.22	15.20	28.63	40.73	51.55										
	35		E.	17.91	30.50	47.18	5.48	18.10										
	36		A.	39.40	42.60	45.43	48.36	52.30										
	37		B.	9.98	13.00	..	17.52	19.98										
	38	Anonymous	C.	40.20	42.16	44.88	46.78	49.18	16 10 45.96	60.2	64.3	55.0	59.8	120 26 59.82	VI. 39.323	30.111	80.0	75.5
	39		D.	8.86	11.20	14.10	16.50	19.10										
	40		E.	37.60	40.19	44.19	47.98	51.45										
	41		C.	32.15	48.69	5.30	20.50	36.00										
	42	ε Ursæ Minoris	D.	56.90	13.60	33.14	51.57	7.80	17 2 33.91	60.6 59.5	62.4 61.2	55.9 55.4	60.0 59.5	221 10 59.72 58.92	VI. 38.971	30.104	79.4	75.2
	43		E.	18.51	38.20	4.31	30.70	51.28										
	44		A.	6.09	9.38	12.00	14.69	17.93										
	45		B.	35.25	38.10	40.25	42.68	46.28										
	46	δ Orionis	C.	3.73	6.00	8.08	10.17	12.30	5 24 8.23	60.3	62.9	53.8	57.0	138 29 58.50	VI. 40.151	30.160	79.0	85.0
	47		D.	31.11	33.50	36.00	38.61	40.80										
	48		E.	58.48	0.82	4.53	8.07	10.82										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 9 6	+ 0 18.10	+ 0.021	− 0.078	+ 0.272	+ 0.038

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.39	+ 17.75	− 44.97	+ 16.22	194 20 31.45	- -	13 35 7.67	+55 26 10.70	− 5.20	+21.79	J. M.	
4												
5												
6												
7												
8	+ 0.05	+ 17.76	+ 17.05	− 19.67	158 2 57.20	- -	13 47 39.08	+19 8 36.45	− 6.50	+30.46		
9												
10												
11												
12												
13	+ 0.06	+ 17.76	+1 4.39	− 18.82	158 51 45.44	- -	14 8 55.31	+19 57 24.69	− 6.34	+32.37		
14												
15												
16												
17												
18	− 0.20	+ 17.77	+1 7.68	−2 13.21	110 1 50.89	- -	14 19 32.39	−28 52 29.86	− 8.20	+42.31		
19												
20												
21												
22												
23	+ 0.11	+ 17.77	+ 42.37	− 10.91	166 36 32.28	40.809	14 38 32.48	+27 42 11.53	− 6.31	+22.04	D. M.	
24												
25												
26												
27			+1 1.27	−1 32.52	124 2 27.17			−14 51 53.58				
28	+ 1.30	+ 17.78	+1 15.74	− 54.52	3 19.64	- -	14 44 43.37	−14 51 1.11	- -	- -		
29												
30												
31												
32												
33	+ 1.42	+ 17.80	− 17.39	+ 45.40	217 9 24.88	- -	15 49 30.81	+78 15 4.13	+ 1.02	+ 6.87		
34												
35												
36												
37												
38	− 1.30	+ 17.80	+ 50.98	−1 26.44	120 26 24.36	- -	16 11 2.46	−18 27 56.39	− 8.66	+20.84		
39												
40												
41												
42	−3 26.52	+ 17.82	+1 3.05	+ 52.52	221 12 54.88	. -	16 59 25.21	+82 18 34.13	+ 5.91	− 1.07		
43												
44												
45												
46	− 0.04	+ 18.09	+ 21.65	− 44.74	138 29 35.41	40.782	5 24 26.28	− 0 24 45.34	− 5.53	− 7.82		46. Steady.
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	47.95	51.46	54.20	56.91	0.10										
	2		B.	17.81	20.40	22.57	24.74	27.34										
July 9	3	α Orionis	C.	46.30	48.55	50.72	52.93	56.43	5 46 50.88	61.0	63.6	54.5	58.3	146 14 59.35	VI. 36.525	30.161	80.0	85.2
	4		D.	14.14	16.22	18.80	21.70	23.71										
	5		E.	41.47	44.00	47.63	51.21	54.80										
	6		A.	52.51	55.72	58.23	1.00	4.66										
	7		B.	23.69	26.60	29.07	31.23	34.17										
10	8	Sun, II., N.	C.	54.50	56.81	59.22	1.32	3.69	7 20 59.20	60.3	63.8	54.1	57.0	161 8 58.80	III. 39.969	30.154	83.0	89.4
	9		D.	24.30	26.74	29.34	32.00	34.65										
	10		E.	53.79	56.10	59.90	3.80	6.84										
	11		C.	21.41	23.84	26.05	28.33	30.71										
	12	Mercury, N. S.	D.	51.38	53.40	- -	59.09	1.50	8 16 56.58	60.2	62.1	53.0	54.9	160 32 57.55	VI. 42.234 VI. 42.481	30.148	83.2	88.0
	13		E.	20.80	23.46	27.07	30.89	34.09										
	14		A.	28.66	32.18	34.87	37.70	41.07										
	15	Venus, I., N. S.	B.	59.00	1.96	4.09	6.18	8.83	8 23 3.61	60.4	64.7	55.1	60.5	154 33 0.18	VI. 41.523 VI. 39.894	- -	- -	- -
	16		C.	27.57	29.83	31.97	34.07	36.18										
	17									60.0	64.7	54.4	59.0	357 47 59.52				
	18	Nadir	- -	- -	- -	- -	- -	- -	- - -	60.5	64.1	54.0	58.9	59.37	VI. 40.765	30.148	87.0	88.2
	19									60.4	63.7	54.2	59.1	59.35				
	20		A.	44.87	48.80	51.11	53.90	57.63										
	21		B.	16.55	19.21	21.50	23.80	26.72										
15	22	Sun, I., N. S.	C.	47.07	48.99	51.55	53.80	56.09	7 38 51.75	61.2	58.4	49.0	51.6	160 23 55.05	II. 42.405 X. 46.754	30.118	78.6	80.4
	23		D.	16.82	18.90	21.67	24.37	27.00										
	24		E.	45.67	48.62	- -	56.31	59.09										
	25		A.	0.95	4.00	6.91	9.75	13.20										
	26		B.	32.51	35.00	37.27	39.71	42.52										
	27	Sun, II.	C.	3.00	5.12	7.54	9.42	12.08	7 41 7.53	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	28		D.	32.65	34.87	37.61	40.16	42.82										
	29		E.	1.80	4.58	8.00	11.90	14.97										
	30									59.7	55.3	46.4	51.2	357 47 53.15				
	31	Nadir	- -	- -	- -	- -	- -	- -	- - - -	60.0	55.7	46.7	51.1	53.37	VI. 40.469	30.118	78.6	80.4
	32									59.9	55.8	46.6	51.5	53.45				
	33		A.	18.57	22.26	24.85	27.91	31.00										
	34	Venus, I., N. S.	B.	48.60	51.20	54.25	56.48	59.18	8 13 21.64	61.3	56.6	49.4	51.6	154 0 54.72	VI. 41.652	30.127	79.0	78.9
	35		D.	46.62	- -	52.11	54.70	56.90		61.3	56.8	49.7	51.8	54.90	VI. 40.082			79.1
	36		E.	15.09	17.55	21.31	24.87	27.78										
	37		A.	47.47	50.98	- -	59.51	1.49										
	38		B.	17.00	19.98	22.00	24.48	26.86										
	39	α Hydræ	C.	45.87	48.00	50.20	52.29	54.64	9 19 50.41	59.6	55.0	46.4	49.5	130 53 52.62	VI. 40.363	30.726	79.9	79.1
	40		D.	13.58	15.86	18.62	20.97	23.15										
	41		E.	40.99	43.63	47.38	51.00	53.78										
	42		A.	17.59	21.00	23.77	26.60	29.86										
	43		B.	48.00	50.69	53.02	55.03	58.80										
	44	Jupiter, I., N. S.	C.	18.20	20.60	22.86	25.00	27.14	14 44 22.54	59.5	52.3	55.3	52.0	123 59 54.78	VI. 37.624 VI. 35.401	30.125	80.0	76.3 75.8
	45		D.	47.00	49.16	51.86	54.39	56.72										
	46		E.	15.00	17.57	21.00	24.90	27.69										
19	47	Polaris S. P.	C.	8.00	30.00	49.00	12.00	32.00	13 7 50.20	59.8	56.5	65.4	59.7	230 21 0.35	VI. 38.528	30.326	78.9	79.0
	48									59.7	56.3	65.1	59.5	0.15			78.9	78.9

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 9 6	+ 0 18.10	+ 0.021	− 0.078	+ 0.272	+ 0.038
10 8	+ 0 18.14	+ 0.021	− 0.078	+ 0.272	+ 0.038
15 10	+ 0 27.63	0.000	+ 0.134	+ 0.129	+ 0.075
19 19	+ 0 26.69	− 0.009	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.01	− 18.10	+ 2 26.03	− 33.51	146 16 51.87	- -	5 47 8.97	+ 7 22 31.12	− 5.86	− 2.53	D. M.	
4												
5												
6												
7												
8	−1 8.17	− 18.13	+12 12.23	−15 58.86	161 5 12.17	- -	7 20 9.16	+22 10 51.42	- -	- -		
9												
10												
11												
12	− 30.12	− 18.14	− 49.81	− 14.93	160 31 52.81	- -	8 16 44.60	+21 37 27.82	-	- -		12. Unsteady.
13			− 58.28	− 14.93	160 31 44.34							
14												
15	+ 29.19	+ 18.15	− 25.42	− 12.37	154 32 22.39	- -	8 23 50.95	+15 38 29.58		- -		
16			+ 30.46	− 12.37	154 33 18.27							
17												
18	- - -	- - -	- - -	- - -	- -	40.782	- - - -	- - - -	-	- -		18. Unsteady.
19												
20												
21												
22	+1 8.17	+ 27.63	+13 35.31	− 14.57	160 37 15.79	40.664	7 40 27.55	+21 27 4.65	- -	- -		
23			−18 4.98	− 15.05	160 5 35.02							
24												
25												
26												
27	−1 7.65	+ 27.63	- - -	- - -	- - - -	- -	7 40 27.51	- - - -	- -	- -		
28												
29												
30												
31	- - -	- - -	- - -	- - -	- - -	40.664	- - - -	- - - -	-	- -		
32												
33												
34	+ 3.53	+ 27.63	− 33.89	− 12.71	154 0 8.21	- -	8 13 52.80	+15 6 14.38	- -	- -		34. Bad. Cloudy.
35			+ 19.95	− 12.71	154 1 2.05							
36												
37												
38												
39	+ 0.19	+ 27.63	+ 10.33	− 58.96	130 53 3.99	- -	9 20 18.23	− 8 1 16.76	− 5.35	+33.04		
40												
41												
42												
43												
44	+ 1.58	+ 27.63	+ 1 44.29	− 55.68	124 0 43.39	- -	14 44 51.75	−14 53 37.36	- -	-		
45			+ 3 0.54	− 1 32.88	1 22.44			−14 52 58.31				
46												
47	− 10.26	- - -	+ 1 8.51	+ 1 12.52	230 23 21.28	- -	- - - -	+88 30 59.47	- -	−22.91		
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	39.10	42.82	45.44	48.30	51.77		60.0	57.5	62.4	60.3	123 57 0.05				
July 19	2	Jupiter, I.	C.	39.80	41.26	43.44	45.80	48.00	14 44 43.72						VI. 40.550	30.330	78.0	76.5
	3		E.	35.81	38.11	42.00	45.93	48.73		59.8	56.9	62.3	59.8	56 59.70				
	4	Jupiter, II.	B.	9.80	12.29	15.12	19.42	21.90	14 44 45.39	- -	- -	- -	- -	- - -	- - - -	- -	- -	- -
	5		D.	10.10	12.47	15.05	17.84	19.82										
	6		A.	11.62	37.67	56.81	15.98	41.73										
	7		B.	51.09	12.18	26.54	42.72	1.36										
	8	ε Ursæ Minoris	C.	22.50	37.97	54.65	9.69	25.89	17 0 10.34	59.1	58.4	65.5	59.2	221 9 0.55	VI. 38.706	30.326	75.8	71.1
	9		D.	48.05	4.59	23.83	42.50	59.42										
	10	γ Draconis		- -	- -	- -	- -	- -	- -	58.2	58.7	67.2	56.6	190 27 0.18	VI. 44.445	30.324	75.0	68.7
	11		A.	23.44	27.41	30.00	32.51	36.21										
	12		B.	55.07	57.70	59.92	2.23	5.29										
	13	μ Sagittarii	C.	25.50	27.69	30.00	32.50	34.62	18 4 30.06	- -	- -	- -	- -	- - - -	V. 41.330	- -	- -	- -
	14		D.	54.51	57.11	59.98	2.72	5.03										
	15		E.	23.70	26.62	30.37	34.23	37.13										
	16									59.6	58.3	62.5	62.6	357 48 0.75				
	17	Nadir	- -	- -	- -	- -	-	- -	- - - -	59.5	58.4	62.9	62.4	0.80	VI. 40.549	30.321	73.9	67.0
	18									60.6	58.4	62.5	62.4	0.97				
	19	δ Ursæ Minoris	C.	37.66	13.20	48.48	23.80	0.71	18 19 48.77	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	20	51 Cephii, S. P.	C.		10.35	52.98	35.47	19.23	18 29 14.51	-	- -	- -	- -	- - - -	- - - -	-	- -	-
	21		A.	57.52	1.76	4.80	8.10	11.84										
	22		B.	32.66	35.96	38.72	41.00	43.30										
	23	β Lyræ	C.	6.25	9.10	11.63	14.18	16.78	18 44 10.95	60.6	60.4	67.1	64.7	172 6 2.70	VI. 40.294	30.325	72.3	66.1
	24		D.	39.00	41.71	44.96	48.15	50.76										
	25		E.	11.72	13.53	14.75	16.48	19.10										
	26		A.	7.44	11.00	13.67	16.60	19.75										
	27		B.	37.56	40.61	42.76	44.90	47.39										
	28	ζ Aquilæ	C.	6.90	8.91	11.17	13.40	15.61	18 58 11.41	60.2	61.9	66.6	67.0	152 33 3.92	VI. 39.316	30.326	71.7	66.1
	29		D.	35.11	37.37	39.95	42.73	45.07										
	30		E.	3.60	5.89	9.38	12.92	15.96										
	31		A.	34.83	37.98	40.62	43.38	46.45										
	32		B.	4.38	6.94	9.03	11.14	13.80										
	33	δ Aquilæ	C.	32.95	34.94	37.15	39.27	41.37	19 17 37.12	59.7	61.5	65.2	66.6	141 42 3.25	VI. 36.154	30.326	71.2	66.0
	34		D.	0.28	2.41	5.21	7.76	9.95										
	35		E.	27.41	30.00	33.78	37.10	39.80										
	36									60.0	59.7	64.5	65.4	357 48 2.40				
	37	Nadir	- -	- -		- -	- -	- -	- - -	60.2	59.7	64.4	65.7	2.50	VI. 40.557	- -	-	- -
	38									60.3	59.9	64.6	65.4	2.55				
	39		B.	35.00	38.10	40.51	42.72	45.38										
	40		C.	5.09	7.56	9.68	11.86	14.14										
20	41	α Canis Majoris	D.	33.82	36.06	38.96	41.50	43.68	6 38 24.32	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	42		E.	2.16	4.64	8.45	12.06	15.09										
	43									59.5	59.3	62.5	61.4	357 48 0.68				
	44	Nadir	- -	- -	-	- -		- -	- - - -	59.5	59.3	62.8	62.2	0.95	VI. 40.566	- -	- -	- -
	45									59.8	59.5	62.5	62.0	0.95				

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 19 19	+ 0 26.69	− 0.009	+ 0.134	+ 0.129	+ 0.075
20 7	+ 0 27.03	− 0.008	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	+ 1.50	+ 26.73	− 0.86	− 56.46	123 56 2.55	- -	14 45 11.95	−14 58 18.20	- -	- -	D. M.	
3												
4												
5	− 1.12	+ 26.73	-	-	- - - -	- -	14 45 11.00	- - -	- -	- -		
6												
7												
8	+1 46.44	+ 26.70	+ 1 2.40	+ 53.28	221 10 56.23	- -	17 2 23.48	+82 16 35.48	+ 7.08	− 3.27		
9												
10	- - -	- -	− 2 14.48	+ 12.70	190 24 58.40	-	- - - -	+51 30 37.65	-	− 9.43		
11												
12												
13	+ 0.16	+ 26.70	- - -	- - -	- - - -	- -	18 4 56.90	- - - -	− 9.30	- -		
14												
15												
16												
17	- - -	- -	- - -	- - -	- - - -	40.525	- - - -	- - - -	- -	-		
18												
19	+ 4.67	+ 26.70	- -	- - -	- - - -	- -	18 20 20.14	- - - -	+21.80	- -		
20	− 27.45	+ 26.69	- - -	- - -	- - - -	-	18 27 13.65	- - - -	−41.79	- -		
21												
22												
23	+ 0.30	+ 26.69	+ 6.55	− 5.69	172 6 3.56	40.485	18 44 37.94	+33 11 42.81	− 6.48	−15.77		
24												
25												
26												
27												
28	+ 0.24	+ 26.69	+ 40.10	− 26.88	152 33 17.14	- -	18 58 38.34	+13 38 56.39	− 7.49	−17.00		
29												
30												
31												
32												
33	+ 0.22	+ 26.69	+ 2 28.57	− 41.50	141 43 50.32	- -	19 18 4.03	+ 2 49 29.57	− 8.07	−20.36		
34												
35												
36												
37	- - -	- - -	- - -	- - -	- - - -	40.485	- - - -	- - - -	- -	- -		
38												
39												
40												
41	− 14.49	+ 27.03	- -	- - -	- - - -	- -	6 38 36.86	- - - -	− 4.56	- -	J. M.	
42												
43												
44	- - -	- - -	- - -	- -	- - - -	40.541	- - - -	- - - -	- -	- -		
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		C.	0.64	2.76	4.83	7.00	9.06										
July 20	2	α Canis Minoris	D.	28.08	30.52	32.99	35.65	37.82	7 31 33.12	30.5	30.4	33.2	32.5	144 30 31.65	VI. 39.796	30.174	77.0	83.4
	3		E.	55.42	57.98	1.32	4.94	7.82										
	4		B.	23.92	26.88	29.03	31.13	34.03										
	5		C.	54.38	56.67	59.10	1.26	3.47										
21	6	Sun, I., N.	D.	23.49	26.11	29.00	31.45	34.21	8 3 14.07	60.5	61.5	63.5	64.2	159 21 2.42	III. 40.290	30.183	78.0	83.7
	7		E.	52.90	56.30	59.22	2.92	6.00										
	8	Sun, II., S.	D.	38.57	41.00	43.82	46.42	48.82	8 5 58.99	- -	-	- -	- -	- - - -	XI. 39.245	- -	- -	- -
	9		E.	7.80	10.42	14.00	18.06	20.95										
	10		A.	23.00	26.66	29.24	31.92	35.02										
	11		B.	53.54	56.48	58.87	0.90	3.41										
	12	Mercury, I., N. S.	C.	23.19	25.58	28.00	29.92	32.21	9 33 27.86	60.7	61.7	64.3	61.7	154 27 2.10	VI. 36.240	30.159	79.8	88.0
	13		D.	51.97	54.40	57.08	59.67	1.78		60.7	61.5	59.8	63.4	1.35	VI. 36.325			
	14		E.	20.12	23.11	26.74	30.41	33.20										
	15		B.	27.62	30.30	32.62	34.90	37.40										
	16		C.	56.90	59.23	1.32	3.40	5.53		61.3	61.3	64.8	64.6	151 36 3.00		30.160	80.8	88.8
	17	α Leonis	D.	24.86	27.50	30.02	32.53	34.87	10 0 15.73	61.3	61.5	64.2	63.9	2.72	VI. 40.320	30.162	81.0	88.2
	18		E.	52.87	55.47	58.98	2.77	5.58										
	19		A.	21.79	25.60	28.34	31.09	34.50										
	20		B.	53.00	55.92	58.07	0.51	3.19										
	21	α Bootis	C.	23.59	25.73	27.93	30.14	32.57	14 8 28.05	61.4	61.3	64.7	63.8	158 51 2.80	VI. 38.734	30.104	84.0	85.8
	22		D.	52.69	55.03	57.78	0.54	2.92		61.4	61.1	64.4	63.5	2.60		30.102	83.5	85.0
	23		E.	21.51	24.20	27.97	31.81	34.72										
	24		A.	54.45	58.51	0.28	4.21	8.00										
	25		B.	30.79	33.17	35.60	38.40	40.23										
	26	ε Bootis	C.	59.93	2.31	4.79	7.05	9.57	14 38 5.27	62.1	61.9	66.9	65.5	166 36 4.10	VI. 39.413	30.096	83.0	83.1
	27		D.	30.81	33.42	36.40	39.30	41.70		62.3	61.7	67.2	65.5	4.18				
	28		E.	1.62	4.55	8.50	12.52	15.53										
	29		A.	- -	- -	- -	18.75	23.90										
	30		B.	52.12	56.33	59.72	3.41	7.50										
	31	γ Draconis	C.	37.80	41.20	44.84	48.20	51.61	17 52 58.44	59.5	60.6	66.7	57.4	190 24 1.05	VI. 39.165	30.096	79.8	77.4
	32		D.	22.02	25.62	30.21	33.71	37.37		60.7	60.0	65.7	57.0	0.85				
	33		E.	5.58	9.44	15.22	20.92	25.41										
	34		A.	23.50	27.27	29.80	32.41	36.11										
	35		B.	54.71	57.82	0.13	- -	4.98										
	36	μ^1 Sagittarii	C.	25.37	27.70	30.10	32.36	34.54	18 4 31.17	58.5	57.0	58.9	58.8	117 50 58.30	VI. 41.555	30.094	79.8	76.7
	37		D.	54.73	57.12	59.86	2.69	5.09		58.6	56.3	60.4	59.6	58.72				
	38		E.	23.89	26.44	30.45	34.10	37.00										
	39		B.	- -	19.49	55.33	31.38	15.60										
	40	δ Ursæ Minoris	C.	36.98	10.97	48.00	23.47	59.20	18 18 27.26	58.4	56.8	63.0	57.6	225 29 58.95	VI. 41.660	- -	- -	- -
	41		D.	19.42	58.03	42.11	22.33	59.43										
	42		C.	25.00	27.60	30.38	32.97	35.80										
	43	α Lyræ	D.	59.89	2.85	6.00	9.47	12.03	18 32 6.26	- -	- -	- -	- -	- -	- - - -	- -	- -	- -
	44		E.	34.62	37.78	42.14	46.94	50.44										
	45									56.8	55.7	59.0	58.8	357 47 57.57				
	46	Nadir	- -	- -	- -	- -	- -	- -	- - -	57.0	55.5	59.4	58.5	57.60	VI. 40.478	- -	-	- -
	47									57.1	56.4	59.4	60.2	58.35				

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
July 20	7	+ 0 27.03	−0.008	+ 0.134	+ 0.129	+ 0.075
21	13	+ 0 26.98	−0.008	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	− 27.96	+ 27.03	+ 25.56	− 36.03	144 30 21.18	- -	7 31 32.19	+ 5 36 0.43	− 5.66	+17.43	J. M.	
3												
4												
5	− 14.75	+ 27.02	+11 52.95	−16 1.27	159 16 54.10	. .	8 4 33.78	+20 22 33.35	- -	- -		
6												
7												
8	− 44.80	+ 27.02	−19 42.06	+15 29.93	159 16 50.29	- -	8 4 33.78	+20 22 29.54	- -	- -		
9												
10												
11			+ 2 27.55	− 20.50	154 29 8.77							
12	+ 0.44	+ 27.01	+ 2 24.63	− 20.50	154 29 5.85	- -	9 33 55.31	+15 34 46.56	- -	- -		12. Unsteady and faint.
13												
14												
15												
16												
17	− 14.16	+ 27.00	+ 7.58	− 26.74	151 35 43.70	- -	10 0 28.57	+12 41 22.95	− 5.99	+33.20		
18												
19												
20												
21	+ 0.26	+ 26.98	+ 1 1.99	− 18.71	158 51 45.98	- -	14 8 55.29	+19 57 25.23	− 6.13	+31.70		
22												
23												
24												
25												
26	+ 0.29	+ 26.97	+ 38.69	− 10.83	166 36 32.00	- -	14 38 32.53	+27 42 11.25	− 6.15	+21.05		
27												
28												
29												
30												
31	− 12.48	+ 26.95	+ 47.20	+ 12.39	190 25 0.54	- -	17 53 12.91	+51 30 39.79	− 4.98	− 9.93		
32												
33												
34												
35												
36	− 1.00	+ 26.95	− 34.78	− 1 35.50	117 48 48.23	- -	18 4 57.12	−21 5 32.52	− 9.29	− 2.84		
37												
38												
39												
40	− 34.74	+ 26.94	− 38.39	+ 1 0.81	225 30 21.37	- -	18 18 19.46	+86 36 0.62	+22.19	−12.99		
41												
42												
43	− 35.60	+ 26.94	- -	- - -	- - - -	- -	18 31 57.60	- - - -	− 6.16	-		
44												
45												
46	- - -	- - -	- - - -	- - -	- - - -	40.541	- - -	- - - -	- -	- -		
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	51.73	56.00	58.71	1.00	4.20										
	2		B.	22.97	26.00	28.44	30.52	33.36										
July 22	3	Sun, I. N.	C.	53.90	56.21	58.12	0.42	2.95	8 6 58.34	62.5	60.6	64.8	63.8	159 9 2.92	III. 40.201	30.062	84.1	90.3
	4		D.	22.87	25.45	28.26	30.89	33.78		62.8	61.5	65.0	64.5	3.45				
	5		E.	51.57	54.73	58.70	2.51	5.25										
	6		A.	7.28	10.19	13.27	16.00	19.15										
	7		B.	39.32	41.00	42.72	44.86	48.00										
	8	Sun, II. S.	C.	8.31	10.42	- -	- -	18.39	8 9 9.73	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	9		D.	37.46	39.86	42.63	- -	-										
	10		E.	6.75	9.37	13.00	16.72	19.51										
	11									58.9	56.9	60.6	61.0	357 47 59.35				
	12	Nadir	- -	- -	- -	- -	- -	- -	- - - -	58.5	56.2	60.1	60.6	58.85	VI. 40.530	30.061	84.0	90.6
	13									58.2	56.0	59.9	60.5	58.65				
	14		A.	38.21	43.87	47.59	51.61	56.67										
	15		B.	23.86	28.10	31.31	34.64	38.59										
	16	η Ursæ Majoris	C.	8.17	11.50	14.85	18.27	21.49	13 41 14.98	58.8	56.3	61.1	55.0	188 53 57.80	V. 39.249	29.978	88.0	88.7
	17		D.	50.74	54.38	58.50	2.47	5.87										
	18		E.	33.12	37.30	42.65	48.20	52.70										
	19		B.	53.53	56.53	59.20	1.87	5.07										
	20		C.	38.46	40.85	43.78	46.12	48.91										
	21	Anonymous	D.	2.05	5.16	8.07	11.08	13.80	13 58 53.46	55.8	51.9	55.7	56.3	103 14 54.92	V. 38.613	29.975	87.3	88.0
	22		E.	35.39	38.45	43.12	47.30	50.55										
	23		A.	22.15	25.95	28.56	31.35	34.83										
	24		B.	53.64	56.30	58.47	0.91	3.60										
	25	α Bootis	C.	23.61	25.91	28.21	30.41	32.88	14 8 28.34	61.3	60.5	64.1	63.1	158 51 2.25	VI. 38.728	29.972	87.0	87.9
	26		D.	53.00	55.33	58.10	0.71	3.08										
	27		E.	21.85	24.34	28.19	32.07	35.10										
	28	Jupiter, N. S.		- -	- -	- -	- -	- -	- - -	59.5	56.2	59.8	58.7	123 56 58.55	VI. 41.442	29.970	86.5	86.8
	29														VI. 40.305			
	30		A.	39.73	- -	43.38	45.82	48.00										
	31		B.	9.36	12.10	14.32	- -	18.84										
	32	α Orionis	C.	38.12	40.19	42.20	44.31	46.50	5 46 45.63	59.1	56.2	60.3	59.7	146 14 58.32	VI. 36.259	30.034	83.1	83.8
	33		D.	5.52	7.94	10.44	13.12	15.37										
	34		E.	31.11	35.70	39 04	42.80	45.54										
	35		A.	5.64	9.15	11.67	14.42	17.89										
	36		B.	35.90	38.87	41.12	43.34	45.96										
	37	α Canis Majoris	C.	5.82	- -	10.31	12.24	14.67	6 38 10.37	22.5	20.2	19.8	19.7	122 24 20.55	VI. 39.919	30.036	84.0	86.9
	38		D.	34.50	36.67	39.37	41.93	44.34										
	39		E.	2.77	5.10	8.78	12.79	15.67										
	40		A.	3.11	6.57	8.99	11.68	14.83										
	41		B.	32.53	35.20	37.47	39.57	42.00										
	42	α Canis Minoris	C.	1.20	3.37	5.33	7.49	9.79	7 31 5.54	60.5	57.7	61.2	62.4	144 30 0.45	VI. 38.895	30.033	85.3	87.0
	43		D.	28.58	31.09	33.69	36.18	38.36										
	44		E.	56.09	58.63	2.22	5.82	8.65										
	45		A.	39.39	43.08	45.90	48.47	51.65										
	46		B.	9.90	12.72	14.93	17.09	19.75										
	47	Venus, II. N. S.	C.	39.44	41.63	43.94	45.92	48.05	7 51 44.13	62.7	62.8	65.7	65.3	153 33 4.13	VI. 42.528	30.030	86.0	88.3
	48		D.	7.49	9.76	12.80	15.21	17.50							VI. 43.840			88.2
	49		E.	-	38.32	42.08	45.76	48.42										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 22 14	+ 0 26.87	− 0.006	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.26	+26.90	+11 56.69	−16 1.27	159 4 58.60	- -	- - - -	+20 10 37.85	- -	- -	D. M.	
4												
5												
6												
7												
8	+ 3.56	+26.90	- - -	- - -	- - - -	- -	8 8 32.84	- - - -	- -	- -		
9												
10												
11												
12	- - -	- - -	- - -	- - -	- - - -	40.561	- - - -	- - - -	- -	- -		
13												
14												
15												
16	+ 0.39	+26.87	+ 3 38.41	+ 10.65	188 57 46.86	- -	13 41 42.24	+50 3 26.11	− 5.12	+22.14		
17												
18												
19												
20												
21	+ 0.16	+26.87	+ 4 0.23	− 3 11.49	103 15 43.66	- -	13 59 20.49	−35 38 37.09	− 8.05	+46.65		
22												
23												
24												
25	+ 0.26	+26.87	+ 1 2.88	− 18.54	158 51 46.59	- -	14 8 55.47	+19 57 25.84	− 6.17	+31.67		
26												
27												
28			− 30.22	− 1 12.71	123 55 15.62							
29	- - -	- - -	+ 8.78	− 1 12.71	55 54.62	- -	- - - -	−14 58 45.63	- -	- -		
30												
31												
32	− 3.72	+27.00	+ 2 28.30	− 33.45	146 16 53.67	- -	5 47 8.91	+ 7 22 32.92	− 6.13	− 4.06		
33												
34												
35												
36												
37	− 0.35	+26.99	+ 22.74	− 1 18.44	122 23 24.85	- -	6 38 37.01	−16 30 55.90	− 4.60	+ 6.02		
38												
39												
40												
41												
42	− 0.06	+26.98	+ 57.87	− 35.61	144 30 22.71	- -	7 31 32.46	+ 5 36 1.96	− 5.69	+17.24	J.M.	
43												
44												
45												
46												
47	− 2.25	+26.98	− 1 6.76	− 12.88	153 31 44.49	- -	7 52 8.86	+14 37 1.24	- -	- -		
48			− 1 51.76	− 12.88	153 30 59.49							
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									62.9	61.0	65.0	63.9	158 57 3.20				
July 23	2	Sun	- -	- -	- -	- -	- -	- -	- - - -	63.8	61.2	65.5	64.4	3.70	IV. 35.650	30.031	86.0	88.3
	3									64.7	61.4	65.7	64.8	4.15	XI. 39.720	30.028		88.3
	4		A.	9.95	13.59	16.22	18.98	22.29										
	5		B.	40.40	43.29	45.47	47.67	50.27		62.2	61.9	65.2	64.9	153 15 3.55				
	6	Mercury, I., N. S.	C.	9.91	12.17	14.41	16.49	18.70	9 45 14.45	62.3	61.7	65.3	64.8	3.52	VI. 40.184	30.003	86.5	88.4
	7		D.	38.45	40.80	43.52	45.98	48.36		62.4	61.5	65.4	64.8	3.52	VI. 40.355			
	8		E.	6.55	9.16	13.00	16.41	19.27										
	9		A.	57.90	1.57	4.21	6.90	10.20										
	10		B.	28.00	30.85	33.10	35.32	37.90										
	11	α Leonis - - -	C.	57.25	59.50	1.70	3.84	6.08	10 0 1.76	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	12		D.	25.27	27.74	30.48	33.15	35.20										
	13		E.	53.26	55.87	59.47	3.12	6.10										
	14									60.9	58.9	61.9	62.4	357 48 1.02				
	15	Nadir - - - -	- -	- -	- -	- -	- -	- -	- - - -	60.5	59.0	61.5	62.2	0.80	VI. 40.608	- -	- -	- -
	16									60.5	58.8	61.5	62.5	0.82				
	17		A.	48.96	56.60	2.16	7.63	14.65										
	18		B.	52.83	58.50	3.24	8.05	13.52										
	19	α Ursæ Majoris -	C.	54.70	59.46	3.92	8.40	12.91	10 54 3.98	59.4	56.9	63.6	56.7	201 26 59.15	VI. 40.465	29.990	87.0	88.6
	20		D.	53.80	59.00	4.42	10.20	15.03		59.5	57.7	63.9	56.3	59.35				
	21		E.	53.15	58.81	6.50	14.06	19.96										
	22		A.	38.40	43.90	47.83	51.90	56.88										
	23		B.	23.87	28.35	31.70	34.85	38.88										
	24	η Ursæ Majoris -	C.	8.46	11.71	15.22	18.47	21.82	13 41 15.26	60.5	59.4	63.4	57.4	188 57 0.18	VI. 39.538	29.968	87.5	89.0
	25		D.	51.28	54.80	58.79	2.72	6.02		61.0	59.8	63.5	58.5	0.70				
	26		E.	33.62	37.42	43.00	48.67	52.93										
	27		A.	53.42	57.02	59.62	2.43	5.82										
	28		B.	23.88	26.65	29.00	31.05	33.74										
	29	Moon, I., N. - -	C.	53.20	55.51	57.69	59.72	2.00	13 56 57.78	59.4	58.9	61.7	60.4	131 33 0.10	VI. 41.757	- -	- -	- -
	30		D.	21.62	24.06	26.79	29.45	31.60										
	31		E.	49.74	52.30	55.96	59.72	2.45										
	32		A.	54.96	58.97	1.87	4.64	8.42										
	33		C.	0.25	2.77	5.22	7.55	9.92										
	34	ε Bootis - - - -	D.	31.22	33.85	36.73	39.86	42.02	14 38 9.99	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	35		E.	1.87	4.80	8.88	12.90	15.93										
	36		A.	11.77	15.43	18.00	20.78	24.05										
	37		B.	42.20	45.03	47.32	49.50	52.00										
	38	α^2 Libræ - - - -	C.	11.65	13.88	16.17	18.43	20.70	14 42 16.27	- -	- -	- -	- -	- - -	- -	- -	- -	- -
	39		D.	40.12	42.66	45.28	47.91	50.20										
	40		E.	8.37	11.00	14.68	18.36	21.16										
	41		A.	6.60	10.15	12.73	15.44	18.76										
	42		B.	36.65	39.61	41.81	44.00	46.52										
	43	Venus, I., N. S. -	C.	6.10	8.41	10.65	12.76	14.90	7 49 10.99	62.0	61.2	65.8	64.8	153 30 3.45	VI. 39.805	30.062	80.2	81.5
	44		D.	34.29	36.60	39.35	41.90	44.14							VI. 41.270			80.6
	45		E.	2.32	4.96	8.52	12.30	15.17										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 23 10	+ 0 26.96	− 0.009	− 0.187	+ 0.527	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1			+11 36.94	− 15.60	159 8 25.02							
2	- - -	- - -	−19 56.95	− 16.07	158 36 50.66		- - -	+19 58 17.09	- -	- -	J. M.	
3												
4												
5			+ 13.65	− 21.55	153 14 55.63							
6	+ 0.21	+ 26.96	+ 7.79	− 21.55	153 14 49.77	-	9 45 41.62	+14 20 31.95	-	- -		
7												
8												
9												
10												
11	+ 0.00	+ 26.96	- - -	- - -	. . .	- -	10 0 28.72	- - - -	− 5.99	- -		
12												
13												
14												
15	- - -	- - -	- -	- - -	- - - -	40.582	- - -	- - - -	- -	- -		
16												
17												
18												
19	+ 0.97	+ 26.95	+ 4.01	+ 23.65	201 27 26.91	- -	10 54 31.90	+62 33 6.16	− 6.25	+29.35		
20												
21												
22												
23												
24	+ 0.56	+ 26.93	+ 35.00	+ 10.64	188 57 46.08	- -	13 41 42.75	+50 3 25.33	− 5.10	+22.17		
25												
26												
27												
28					131 57 59.32							
29	+1 7.38	+ 26.93	− 33.62	+25 32.88	59.32	40.582	13 58 32.09	− 6 56 21.43	- -	- -		
30												
31												
32												
33												
34	− 3.90	+ 26.92	- -	- - -	- - - -	- -	14 38 33.01	- - - -	− 6.12	- -		
35												
36												
37												
38												
39	− 0.24	+ 26.92	- -	- -	- - - -	- -	14 42 42.95	- - - -	− 7.70	- -		
40												
41												
42												
43	− 1.94	+ 26.75	+ 25.44	− 12.91	153 30 15.98	-	7 49 35.80	+14 35 30.11	- -	- -		
44			− 24.80	− 12.91	153 29 25.74							
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	48.69	52.40	55.24	57.90	1.45										
	2		B.	20.09	22.80	25.06	27.21	30.11										
July 24	3	Sun, I., S.	C.	50.22	52.69	54.83	57.04	59.35	8 14 54.90	60.5	59.7	62.2	61.9	158 39 1.08	X. 40.310	30.062	81.0	81.0
	4		D.	19.47	21.90	24.73	27.40	29.80		60.5	60.1	62.8	61.4	1.20				
	5		E.	48.39	50.87	54.75	58.65	1.55										
	6		B.	34.56	37.21	39.55	41.79	44.48										
	7		C.	4.82	7.10	9.28	11.56	13.84										
	8	Sun, II., N.	D.	33.88	36 31	38.90	41.91	44.26	8 17 24.33	60.5	59.7	62.5	61.5	158 39 1.05	II. 36.310	30.064	81.0	81.8
	9		E.	2.98	5.38	9.37	13.26	16.20										
	10									61.3	60.5	63.0	64.3	357 48 2.28				
	11	Nadir		- -	- -	- -	- -	- -	- - - -	61.5	60.5	63.4	64.1	2.37	VI. 40.615	- -	- -	- -
	12									61.6	60.9	63.0	64.0	2.38				
	13		C.	48.47	50.88	53.00	55.19	57.25										
	14	Mercury, I., N. S.	D.	17.07	19.40	21.97	24.71	26 88	9 52 22.10	60.5	61.5	65.0	62.8	152 39 2.45	VI. 42.620 VI. 42.760	30.049	82.0	84.5
	15		E.	44.90	47.70	51.25	55.00	57.85										
	16		A.	58.13	1.74	4.28	7.00	10.18										
	17		B.	28.20	31.05	33.30	35.40	38.06										
	18	α Leonis	C.	57.40	59.61	1.80	4.07	6.20	10 0 1.90	60.5	60.7	59.8	62.6	151 36 0.90	VI. 40.358	30.042	82.5	82.8
	19		D.	25.27	27.97	30.67	33.21	35.40										
	20		E.	53.40	56.00	59.66	3.45	6.12										
	21		A.	49.43	56.98	2.44	8.18	15.30										
	22		B.	53.30	59.07	3.56	8.31	13.51										
	23	α Ursæ Majoris	C.	53.74	59.21	3.87	8.43	13.36	10 54 4.29	63.5	61.5	68.5	61.1	201 27 3.65	VI. 40.615	30.038	83.0	84.6
	24		D.	54.40	59.53	4.98	10.41	15.08		63.2	62.0	68.8	60.6	3.65				
	25		E.	53.69	59.00	6.58	14.29	20.61										
	26		A.	31 67	34.94	37.77	40.30	43.65										
	27		B.	1.25	4.10	6.21	8.44	11.00										
	28	κ Virginis	C.	30.30	32.32	34.61	36.71	38.95	14 4 34.56	56.2	55.7	57.3	56.7	129 20 56.48	VI. 41.490	30.028	83.0	82.5
	29		D.	58.08	0.36	2.99	5.54	7.72		56.5	54.5	57.5	56.4	56.22				
	30		E.	25.59	28.17	31.64	35.43	38.19										
	31	λ Virginis	C.	36.46	38.62	40.76	42.90	45.10	14 10 40.77	59.9	56.1	59.4	56.4	126 14 57.95	VI. 41.893	30.026	83.0	82.8
	32		A.	17.60	21.32	24.00	26.80	30.17										
	33		B.	48.30	51.20	53.70	55.87	58.51										
	34	Moon, I., N.	C.	18.59	20.90	23.12	25.30	27.56	14 51 23.05	57.6	55.8	57.8	57.6	126 8 57.20	VI. 38.227	30.042	82.4	81.3
	35		D.	47.25	49.80	52.46	55.12	57.30										
	36		E.	15.77	18.51	22.22	26.00	29.00										
	37		A.	55.10	59.10	1.86	4.90	8.61										
	38		B.	28.29	31.40	33.80	36.28	39.00										
	39	ε Bootis	C.	0.33	3.00	5.41	7.61	10.08	14 38 5.35	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	40		D.	31.39	34.00	36.91	39.62	42.22										
	41		E.	2.10	4.80	8.91	13.11	16.00										
	42		A.	34.61	38.23	40.78	43.37	46.81										
	43		B.	4.38	7.04	9.22	11.37	13.96										
	44	β Libræ	C.	33.13	35.22	37.51	39.60	41.90	15 8 37.56	59.5	56.7	60.7	59.4	130 5 59.07	VI. 41.730	30.046	82.8	80.4
	45		D.	0.90	3.22	5.70	8.32	10.62										
	46		E.	28.45	30.97	34 51	38.22	40.96										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
July 24 13	+ 0 26.70	− 0.009	− 0.187	+ 0.527	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.08	+ 26.74	−14 27.93	− 16.55	158 24 16.66							
4												
5						-	8 16 28.96	+19 45 40.28	- -		J. M.	
6												
7												
8	− 14.86	+ 26.74	+17 0.39	− 16.04	158 55 45.40							
9												
10												
11	- - -	- - -	- - -	-	- - - -	40.547	-	- - -		- -		
12												
13												
14	− 28.70	+ 26.73	− 1 11.11	− 22.33	152 37 29.01	-	9 52 20.13	+13 43 5.86	- -	- -		
15			− 1 15.91	− 22.33	152 37 24.21							
16												
17												
18	0.00	+ 26.73	+ 6.48	− 26.91	151 35 40.47	- -	10 0 28.63	+12 41 19.72	− 5.99	+33.17		
19												
20												
21												
22												
23	+ 0.97	+ 26.72	− 2.33	+ 23.87	201 27 25.19	- -	10 54 31.98	+62 33 4.44	− 6.23	+29.53		
24												
25												
26												
27												
28	− 0.20	+ 26.69	− 32.35	− 1 1.65	129 19 22.35	- -	14 5 1.05	− 9 34 58.40	− 7.21	+36.86		
29												
30												
31	− 0.16	+ 26.69	− 46.17	− 1 8.76	126 13 3.02	- -	14 11 7.30	−12 41 17.73	− 7.34	+37.27		31. Very faint.
32												
33												
34	+1 8.29	+ 26.68	+ 1 21.97	+28 54.45	126 39 13.62	40.547	14 52 58.02	−12 15 7.13	- -	- -		
35												
36												
37												
38												
39	+ 0.17	+ 26.69	- - -	-	- - -		14 38 32.21	- - - -	− 6.10	-		
40												
41												
42												
43												
44	− 0.19	+ 26.68	− 40.58	− 1 0.32	130 4 18.17	- -	15 9 4.05	− 8 50 2.58	− 7.63	+28.30		
45												
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	41.35	45.22	47.85	50.72	53.90										
	2		B.	12.40	15.50	17.80	20.00	22.71										
July 25	3	B. A. C. 5580	C.	42.60	44.83	47.25	49.45	51.72	16 32 47.35	- -	- -	- -	- -	- - - -	- - - - -	- -	- -	- -
	4		D.	11.49	14.00	17.00	19.78	22.40										
	5		E.	40.57	43.40	46.91	50.83	54.17										
	6		A.	43.35	47.56	50.08	52.98	56 37										
	7		B.	14.74	18.00	20.01	22.10	24.95										
	8	Anonymous	C.	45.20	47.42	49.50	51.80	54.08	16 37 49.73	58.9	57.4	59.9	59.2	119 8 58.85	VII. 40.015	30.050	81.1	75.2
	9		D.	14.22	16.72	19.55	22.12	24.58										
	10		E.	43.16	45.70	49.58	53.25	56.15										
	11	ε Ursæ Minoris	C.	21.56	37.68	52.22	7.79	23.95	17 0 52.64	60.7	58.9	65.2	60.4	221 9 1.30	VI. 38.876	30.053	80.4	73.2
	12		A.	6 52	9.95	12.79	15.41	18.69										
	13		B.	37.30	39.84	42.09	44.35	46.88										
27	14	α Canis Majoris	C.	6.76	8.74	11.21	13.50	15.80	6 38 11.33	62.9	62.4	63.0	60.2	122 24 2 12	- - - -	30.122	77.9	78.1
	15		D.	35.49	37.91	40.47	43.19	45.39										
	16		E.	3.85	6.23	10.20	13.94	16.75										
	17		A.	35.45	38.65	41.71	44.13	48.00										
	18		B.	6.50	9.33	11.39	13.82	16.51										
28	19	Sun, I., N.	C.	36.47	38.72	41.17	43.20	45.72	8 30 41.13	64.1 64.0	62.2 62.5	66.2 66.7	66.1 66.6	157 51 4 65 4.95	III. 41.436	30.119	80.5	81.6
	20		D.	5.39	8.09	10.62	13.51	15.70										
	21		E.	34.09	36.89	40.95	44.81	47.36										
	22		A.	-	52.74	55.33	58.17	1.48										
	23		B.	20.12	23.00	25.19	27.32	29.88										
	24	Sun, II.	C.	50.37	52.45	54.69	56.85	59.02	8 32 57.56	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	25		D.	19.48	21.90	24.32	27.02	29.30										
	26		E.	48.08	50.62	54.32	58.40	1.30										
	27		A.	59.12	2.57	5.00	7.78	11.09										
	28		B.	29.31	32.00	34.00	36.16	38.63										
	29	α Leonis	C.	57.93	0.35	2.70	4.90	6.91	10 0 2.71	60.0	59.4	64.4	62.1	151 36 1.47	VI. 40.298	30.103	81.6	83.9
	30		D.	26.13	28.71	31.50	34.04	36.10										
	31		E.	54.35	56.62	0.29	4.29	7.19										
	32		A.	50.50	53.00	55.50	58.14	1.50										
	33		B.	19.39	22.08	24.30	26.47	29.06										
	34	Mercury, I., N. S.	C.	48.62	50.80	52.80	54.78	57.20	10 11 52.97	59.6	57.8	62.1	62.3	150 6 0.45	VI. 37.950 VI. 37.738	30.100	81.7	84.6
	35		D.	16.52	18.85	21.60	24.00	26.48										
	36		E.	44.21	46.75	50.57	54.10	57.05										
	37									59.9	58.9	62.3	62.7	357 48 0.95				
	38	Nadir	- -	- -	- -	- -	-	- -	- -	60.0 60.1	58.7 58.5	62.2 62.3	62.8 62.9	0.92 0.95	VI. 40.582	- -	- -	- -
	39																	
	40		A.	36.49	40.82	42.87	45.37	48.26										
	41		B.	6.50	9.42	11.59	13.72	16.21										
	42	α Ophiuchi	C.	35.74	37.62	39.79	41.80	44.23	17 27 40.02	59.9	59.1	62.4	61.3	151 33 0.67	- - - -	- - - -	- -	- -
	43		D.	3.33	5.82	8.21	10.93	13.18										
	44		E.	31.51	34.05	37.72	41.22	44.13										
	45		A.	7.17	10.89	13.48	16.28	19.59										
	46		B.	37.82	40.77	42.86	45.12	47.82										
	47	α Canis Majoris	C.	8 02	10.25	12.41	15.08	17.37	6 38 12.22	62.8 63.6	62.7 63.4	62.9 62.9	62.4 62.2	122 24 2.70 3.02	VI. 39.360	29.990	79.5	82.0
	48		D.	36.23	38.69	41.22	43.92	46.12										
	49		E.	4.60	7.05	10.80	14.43	17.50										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m s.	s.	s.	s.	s.
July 25 16	+ 0 26.47	− 0.008	− 0.187	+ 0.527	+ 0.075
27 8	+ 0 25.98	− 0.008	− 0.187	+ 0.527	+ 0.075
28 10	+ 0 25.96	− 0.008	− 0.187	+ 0.527	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 0.29	+ 26.47	- - -	- - -	- - - -	- -	16 33 13.53	- - - -	- -	- -	D. M.	
4												
5												
6												
7												
8	— 0.29	+ 26.46	— 2 42.21	— 1 30.96	119 4 45.68	- -	16 38 15.90	—19 49 35.07	— 8.82	+15.70		
9												
10												
11	+ 4.83	+ 26.46	+ 57.32	+ 52.57	221 10 51.19	- -	17 1 23.93	+82 16 30.44	+ 7.90	— 4.23		
12												
13												
14	— 0.26	+ 25.99	- - -	- - -	- - - -	40.555	6 38 37.06	- - - -	— 4.69	- -		14. Unsteady.
15												
16												
17												
18												
19	+ 0.07	+ 25.97	+11 14.11	—16 3.52	157 46 15.39	- -	8 32 14.01	+18 51 54.64	- -	- -		
20												
21												
22												
23												
24	— 2.67	+ 25.97	- - -	- - -	- - - -	- -	- - - -	- - - -	- -	- -		24. Unsteady.
25												
26												
27												
28												
29	0.00	+ 25.96	+ 8.81	— 26.90	151 35 43.38	- -	10 0 28.67	+12 41 22.63	— 5.99	+33.13		29. Very faint and unsteady.
30												
31												
32												
33												
34	+ 0.20	+ 25.96	+ 1 29.36	— 24.86	150 7 4.95	- -	10 12 19.13	+11 12 47.84	- -	- -		34. Unsteady.
35			+ 1 36.64	— 24.86	7 12.23							
36												
37												
38	- - -	- - -	- - -	- - -	- - - -	40.555	- - - -	- - - -	- -	- -		
39												
40												
41												
42	0.00	+ 25.68	- - -	- - -	- - - -	- -	17 27 5.70		— 7.28	- -		
43												
44												
45												
46												
47	— 0.26	+ 25.08	+ 40.20	— 1 19.08	122 23 23.98	40.532	6 38 37.04	—16 30 56.77	— 4.71	+ 4.82	J. M.	
48												
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	12.12	16.10	19.08	22.00	25.56										
	2		B.	45.41	48.73	51.12	53.48	56.42										
July 28	3	ε Canis Majoris	C.	18.31	20.60	23.05	25.30	27.95	6 52 23.07	60.0	56.8	59.0	59.4	110 8 58.80	VI. 38.410	29.985	80.5	84.5
	4		D.	49.39	52.00	54.83	57.73	0.24		60.2	55.8	59.6	60.3	58.97				
	5		E.	20.39	23.32	27.32	31.50	34.64										
	6		A.	31.68	35.42	38.00	40.13	44.02										
	7		B.	2.20	4.87	7.00	9.34	11.94										
	8	Venus II., N. S.	C.	31.63	33.67	35.90	37.85	40.14	7 38 35.91	60.7	59.7	63.8	63.7	153 30 1.97	VI. 41.600	29.972	81.0	84.0
	9		D.	59.38	2.16	4.80	7.32	9.69		60.8	59.4	64.2	63.9	2.08	VI. 43.235			
	10		E.	27.73	30.40	34.00	37.76	40.72										
	11									60.4	59.4	62.9	62.3	157 33 1.25	X. 43.900	29.958	82.8	84.8
29	12	Sun, N. S.	- -	- -	- -	- -	- -	- -	- - -	60.5	59.7	63.1	62.7	1.50	II. 39.827	29.956		84.9
	13									60.4	59.8	62.4	63.4	1 50				
	14		A.	42.12	45.80	48.33	50.97	54.25										
	15		B.	11.93	14.87	17.08	19.35	21.82										
	16	Mercury, I., N. S.	C.	41.17	44.43	45.66	47.77	49.92	10 16 45.67	60.0	58.8	62.1	62.3	149 30 0.80	VI. 40.065	29.924	84.5	88.0
	17		D.	9.13	11.62	14.05	16.81	18.94							VI. 40.254			
	18		E.	36.85	39.47	43.00	46.72	49.77										
	19		A.	51.09	58.82	4.46	9.88	16.84										
	20		B.	54.85	0.81	5.41	10.25	15.65										
	21	α Ursæ Majoris	C.	56.77	0.31	5.99	10.45	15.10	10 54 6.14	60.7	58.4	64.2	56.2	201 26 59.87	VI. 40.505	29.909	85.0	87.2
	22		D.	56.22	1.41	7.00	12.30	17.10		59.6	57.8	64.7	56.9	59.75				
	23		E.	55.19	0.83	8.32	16.30	22.24										
	24									58.2	57.2	59.6	60.5	358 47 58.87				
	25	Nadir	- -	- -	- -	- -	- -	- -	- - -	58.4	56.8	59.5	60.3	58.75	VI. 40.497	- -	- -	- -
	26									58.5	56.9	60.0	59.9	58.82				
	27		A.	40.85	46.12	50.12	54.20	59.30										
	28		B.	26.43	30.50	33.86	37.21	41.22										
	29	η Ursæ Majoris	C.	10.81	14.12	17.45	20.71	24.00	13 41 17.57	59.2	58.1	62.5	57.2	188 56 59.25	VI. 39.450	29.834	85.8	86.7
	30		D.	53.50	57.16	1.03	5.12	8.41		59.2	58.4	62.2	57.5	59.32				
	31		E.	35.94	39.80	45.30	50.88	55.14										
	32		A.	8.47	12.26	14.90	17.72	21.06										
	33		B.	39.66	42.52	44.70	46.97	49.70										
	34	η Bootis	C.	9.77	12.13	14.32	16.32	18.69	13 47 14.34	60.5	61.7	65.4	64.4	158 3 3.00	VI. 40.135	29.834	85.5	87.0
	35		D.	38.90	41.22	43.85	46.69	48.80										
	36		E.	7.60	10.21	14.04	17.80	20.68										
	37		A.	24.81	28.52	31.20	34.05	37.42										
	38		B.	56.06	58.93	1.28	3.52	6.15										
	39	α Bootis	C.	26.37	28.56	30.87	33.00	35.38	14 8 30.96	60.8	60.3	64.0	63.5	158 51 2.15	VI. 38.700	29.828	85.7	86.7
	40		D.	55.42	57 98	0.54	3.31	5.73		60.7	59.8	64.0	62.3	1.70				
	41		E.	24.40	27.20	30.90	34.79	37.72										
	42	ε Bootis		- -	-	-	- -	- -	- - -	60.7	60.0	64.8	61.8	166 36 1.82	VI. 39.280	-	- -	85.7
	43	α^2 Libræ		- -	-	- -	- -	- -	- - -	60.7	59.9	62.2	61.0	123 30 0.95	VI. 40.365	-	-	
	44	β Ursæ Minoris	- -	29.00	37.29	45.29	52.83	1.20	14 50 45.12	- -	- -	-	-	-	- - -	-	- -	- -

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
July 28	8	+ 0 24.98	− 0.070	− 0.187	+ 0.527	+ 0.075
29	14	+ 0 24.24	− 0.116	− 0.187	+ 0.527	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.40	+ 25.06	+ 1 12.79	−2 11.29	110 8 0.38	- -	6 52 47.73	−28 46 20.37	− 3.93	+ 3.74	J. M.	3. Very faint.
4												
5												
6												
7												
8	− 1.87	+ 25.01	− 36.64	− 12.89	153 29 12.49	- -	7 38 59.05	+14 34 23.69	- -	- -		
9			− 1 32.73	− 12.89	28 16.40							
10												
11												
12	- - -	- - -	−16 31.60	− 17.41	157 16 12.40	-	- - -	+18 37 37.31	- -	- -		
13			+14 59.22	− 16.91	47 43.72							
14												
15												
16	+ 0.19	+ 24.82	+ 16.02	− 25.14	149 29 51.68	- -	10 17 10.68	+10 35 27.69	- -	- -		
17			+ 9.54	− 25.14	149 29 45.20							
18												
19												
20												
21	+ 0.97	+ 24.78	+ 0.93	+ 23.65	201 27 24.39	40.532	10 54 31.89	+62 33 3.64	− 6.16	+30.63		
22												
23												
24												
25	- -	- -	- - -	-	- - - -	40.532	- - -	- - - -	- -	- -		
26												
27												
28												
29	+ 0.56	+ 24.27	+ 37.12	+ 10.64	188 56 47.04	- -	13 41 42.40	+50 2 26.29	− 4.95	+22.36		
30												
31												
32												
33												
34	+ 0.07	+ 24.26	+ 13.62	− 19.35	158 2 57.27	- -	13 47 38.67	+19 8 36.52	− 6.24	+29.67		
35												
36												
37												
38												
39	+ 0.08	+ 24.23	+ 1 2.85	− 18.49	158 51 46.28	40.532	14 8 55.27	+19 57 25.53	− 6.07	+31.39		
40												
41												
42	- - -	- - -	+ 42.95	− 10.68	166 36 34.09	- -	- - -	+27 42 13.34	- -	+20.66		
43	- -	- -	+ 5.73	−1 14.98	123 28 51.70	-	- - -	−15 25 29.05	- -	+34.24		
44	+ 2.28	+ 24.14	- - -	- - -	- - - -	- -	14 51 11.54	- - - -	+ 0.09	- -		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	34.00	37.58	40.49	43.00	46.51										
	2		B.	- -	7.37	9.56	11.71	14.25										
July 29	3	Venus, II.	C.	34.00	36.15	38.35	40.40	42.75	7 36 38.21	- -	- -		- -	- - - - -	- - - -	-	- -	- -
	4		D.	2.20	4.64	7.13	9.95	12.25										
	5		E.	30.23	32.86	36.70	40.17	43.10										
	6									63.0	62.9	67.0	68.0	357 48 5.22				
Aug. 2	7	Nadir	- -	- - - -	- - - -	- - - -	- - - -	- - - -	- -	63.0	62.9	67.5	66.3	4.92	VI. 40.694		- -	- -
	8									63.0	62.8	67.2	67.5	5.12				
	9		A.	34.68	38.58	41.31	44.21	47.57										
	10		B.	6.42	9.00	11.40	13.85	16.52										
	11	μ^1 Sagittarii	C.	36.73	39.00	- -	43.58	45.93	18 4 41.48	-	- -	- -	- -	- - - - -	- - - -	-	- -	- -
	12		D.	6.11	8.66	11.53	14.16	16.50										
	13		E.	35.43	38.13	41.72	45.78	48.63										
	14		B.	9.50	54.00	29.50	5.50	49.80										
	15	δ Ursæ Minoris	C.	12.00	49.50	26.00	0.00	38.00	18 19 24.01	- -	- -		- -	- - - - -	- - -	-	- -	- -
	16		D.	55.50	35.00	18.00	0.50	37.40										
	17		A.	21.72	26.42	29.44	33.06	- -										
	18		B.	59.62	3.00	5.51	8.24	11.44										
	19	α Lyræ	C.	35.90	38.70	41.39	44.07	47.03	18 31 44.21	-	-	- -	- -	- - - - -	- - - -	- -	- -	- -
	20		D.	11.10	14.18	17.52	20.60	23.25										
	21		E.	46.00	49.00	53.69	58.40	1.72										
	22		B.	33.00	56.00	38.00	11.00	44.00										
	23		C.	0.00	25.00	43.00	6.00	26.00										
Sept. 22	24	Polaris, S. P.	D.	44.00	22.00	44.50	9.00	55.00	13 13 56.22	- -	- -	- -	- -	- - - - -	- - - -	- -	- -	- -
	25		E.	13.00	21.00	1.00	- -	57.00										
	26	α Bootis	- -	- - - -	- - - -	-	- -	- -	- - -	60.0	56.8	58.6	61.4	158 53 58.95	VI. 44.111	30.190	71.5	70.8
	27		A.	30.20	35.45	39.58	43.72	48.83										
	28		B.	17.10	21.29	24.91	28.28	32.42										
	29	γ Draconis	C.	3.02	6.29	9.82	13.11	16.59	17 53 9.87	- -	- -	- -	- -	- - - - -	- - - -	- -	- -	- -
	30		D.	46.82	50.48	54.98	58.86	2.51										
	31		E.	30.65	34.70	40.40	46.10	50.67										
	32		A.	49.29	53.16	55.79	58.52	2.01										
	33		B.	20.55	23.40	25.80	27.16	30.90										
	34	μ^1 Sagittarii	C.	51.24	53.61	55.92	57.96	0.52	18 4 55.86	57.5	54.7	54.7	55.3	117 50 55.55	VI. 41.695	30.198	71.0	67.0
	35		D.	20.66	23.12	25.83	28.56	30.90										
	36		E.	49.61	52.57	56.22	0.16	3.00										
	37		A.	47.20	50.98	53.43	55.92	59.02										
	38		B.	16.62	19.39	21.48	23.53	25.98										
23	39	Sun, I.	C.	45.32	47.12	49.20	51.52	53.76	12 1 49.51	- -	- -	- -	- -	- - - - -	- - - -	- -	- -	- -
	40		D.	12.32	15.20	17.53	19.48	21.98										
	41		E.	40.22	42.54	46.09	49.60	52.20										
	42									59.9	57.2	59.7	59.8	357 47 59.15				
	43	Nadir	- -	- - - -	- - - -	- - - -	- - - -	- - - -	- - -	60.0	57.8	60.1	60.3	59.55	VI. 40.908	- -	- -	- -
	44									60.1	57.9	60.0	60.2	59.55				

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.						
d.	h.	m. s.	s.	s.	s.	s.
July 29	14	+0 24.24	−0.116	− 0.187	+ 0.527	+ 0.075
Aug. 2	18	+0 15.73	−0.086	− 0.187	+ 0.527	+ 0.075
Sept. 22	18	+0 0.27	−0.005	+ 0.134	+ 0.129	+ 0.075
23	12	+0 0.18	−0.005	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 1.81	- - -	- - -	- - -	- - - -	- -	- - - -	- - - -	-	- -	J. M.	
4												
5												
6												
7	- - -	- - -	-	- - -	- - - -	40.545	- - - -	- - - -	- -	- -		
8												
9												
10												
11	— 0.31	+ 15.73	- - -	- - -	- -	- -	18 4 56.90	- -	— 9.26	- -		
12												
13												
14												
15	+ 11.04	+ 43.42	- -	- - -	- - - -	- -	18 20 18.47	- - - -	+25.29	- -		
16												
17												
18												
19	— 2.36	+ 15.69	- - -	- - -	- - -	- -	18 31 57.54	- - - -	— 6.06	- -		
20												
21												
22												
23												
24	—7 42.74	- - -	- - -	- - -	- -	- -	- - - -	- - - -	- -	- -		
25												
26	- -	- -	—1 49.30	— 19.30	158 51 50.35	40.925	- - - -	+19 57 29.60	-	+34.82		
27												
28												
29	+ 0.40	+ 0.27	- - -	- - -	- - - -	- -	17 53 10.54	- - - -	— 3.25	- -		
30												
31												
32												
33												
34	+ 0.16	+ 0.27	— 26.41	— 1 37.67	117 48 51.47	- -	18 4 56.29	—21 5 29.28	— 8.58	— 1.83		
35												
36												
37												
38												
39	+ 0.21	+ 0.18	- - -	- - -	- - -	- -	12 2 53.97	- - - -		-	D. M.	
40												
41												
42												
43	- - -	- - -	- - -	- - -	- - - -	40.925	- - - -	- - - -		-		
44												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	55 51	58.80	1.54	3.93	7.44										
	2		B.	24.68	27.28	29.37	31.61	34.24										
Sept. 23	3	Sun, II.	C.	53.46	55.44	57.57	59.75	1 79	12 3 57.65	- -	- -	- -		- - - -	-	- -	- -	70.9
	4		D.	20.92	23.19	25.42	28.12	30.33										
	5		E.	48.32	50.68	54.25	57.55	0.00										
	6		A.	57.00	43.00	4.00	23.00	1.00										
	7		B.	28.00	51.00	33.00	9.00	40.00										
	8	Polaris, S. P.	C.	58 00	17.00	35.00	59.00	23.00	13 4 34.96	59.5	54.4	55.0	55.6	230 20 56.12	VI. 39.235	30.281	70.9	72.4
	9		D.	42.00	20.00	43.00	0.00	48.00		58.8	53.8	54.7	55.7	55.75				
	10		E.	10.00	18.00	59.00	38.00	55.00										
	11		A.	57.50	1.87	5.70	9.53	14.59										
	12		B.	38.90	42.72	45.50	48.66	52.27										
27	13	α Cygni	C.	- -	- -	- -	-	- -	20 36 22.84	61.0	60.3	63.4	59.4	183 39 1.02	VI. 39.400	30.070	67.7	57.8
	14		D.	0.78	4.49	7.70	11.04											
	15		E.	35.80	39.25	44.15	49.85	53.65										
	16		A.	59.96	3.46	6.79	10.08	14.08										
	17		B.	36.50	39.84	42.55	45.33	48.65										
	18	61[1] Cygni	C.	12.54	15.28	17.90	20.60	23.43	21 0 18.11	60.4	57.8	61.9	60.0	176 54 0.02	VI. 36.920	30.084	66.7	58.9
	19		D.	47.30	50.19	53.71	56.75	59.50										
	20		E.	21.98	25.06	29.90	33.81	37.67										
	21		A.	0.34	4.79	8.19	11.20	15.61										
	22		B.	37.77	41.26	43.90	46.80	49.90										
	23	61[2] Cygni	C.	13.91	16.60	19.20	21.94	24.80	21 0 19.47	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	24		D.	48.80	51.90	55.10	58.12	0.85										
	25		E.	23.60	26.55	31.12	35.23	39.31										
	26									59.3	56.6	59.6	59.8	357 47 58.82				
	27	Nadir	- -	-	-	- -	- -	-	- - - -	59.5	56.8	59.4	60.0	58.92	VI. 40.771	- -	- -	- -
	28									59.4	56.6	59.5	59.7	58.80				
	29		A.	45.77	49.20	51.50	54.40	57.19										
	30		B.	15.20	18.12	20.12	22.19	24.80										
	31	β Aquarii	C.	43.85	46.00	48.17	50.10	52.29	21 23 48.19	55.0	52.1	51.3	52.0	132 32 52.60	VI. 39.881	30.075	65.9	58.8
	32		D.	11.52	13.70	16.18	18.90	20.96										
	33		E.	38.41	41.00	44.79	48.38	51.00										
	34		B.	52.54	55.74	58.13	0.64	3.40										
	35	α Piscis Australis	C.	24.69	28.10	30.66	33.23	35.72	22 50 46.79	-	-	- -	- -	- - - -	- - - -	- -	-	- -
	36		D.	56.80	59.72	3.15	6.00	8.38										
	37		E.	28.70	31.78	35.60	39.73	43.10										
	38		A.	21.86	25.59	28.00	30.66	33.89										
	39		B.	51.88	54.69	56.60	58.96	1.61										
	40	α Pegasi	C.	21.29	23.52	25.79	27.85	30.38	22 57 25.84	58.3	55.4	56.6	58.5	153 17 57.20	VI. 37.655	30.085	66.0	56.4
	41		D.	49.21	57.84	54.39	57.27	59.59										
	42		E.	17.79	20.40	24.10	27.81	30.95										
	43		A.	6.00	9.76	11.82	14.50	17.87										
	44		B.	35.38	38.00	39.98	42.00	44.80										
	45	27 Piscium	C.	3.74	6.10	8.10	10.22	12.41	23 51 8.21	59.1	57.8	57.2	58.6	134 32 58.17	VI. 40.781	30.084	65.0	63.3
	46		D.	31.27	33.66	36.31	38.75	40.99										
	47		E.	58.53	0.85	4.76	8.40	11.05										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Sept. 23	12	+ 0 0.18	− 0.005	+ 0.134	+ 0.129	+ 0.075
27	22	− 0 0.38	+ 0.010	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	m. s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.21	+ 0.18	- - -	- - -	- - - -	- -	- -	- - -	-	-	D. M.	
4												
5												
6												
7												
8	— 7.78	+1 59.50	+ 57.97	+ 1 13.35	230 23 7.25	- -	13 6 26.68	+88 31 13.50	—88.94	—41.24		
9												
10												
11												
12												
13	+ 2.75	— 0.40	+ 48.20	+ 6.92	183 39 56.14	- -	20 36 25.19	+44 45 35.39	— 5.86	—46.87		
14												
15												
16												
17												
18	+ 0.33	— 0.39	+2 13.28	— 0.82	176 56 12.48	- -	21 0 18.05	+38 1 51.73	— 7.52	—58.05		
19												
20												
21												
22												
23	+ 0.33	— 0.39	- - -	- - -	- - - -	-	21 0 19.41	- - -	— 7.52	-		
24												
25												
26												
27	- - -	- - -	- - -	- -	- - - -	40.805	- - - -	- - -	- -	- -		
28												
29												
30												
31	+ 0.22	— 0.39	+ 31.70	— 57.79	132 32 26.51	. .	21 23 48.02	— 6 21 54.24	— 8.48	—43.91		
32												
33												
34												
35												
36	— 16.13	— 0.37	- - -	- - -	- - - -	-	22 50 30.29	- - - -	— 9.32	- -		
37												
38												
39												
40	+ 0.25	— 0.37	+1 48.06	— 26.24	153 19 19.02	- -	22 57 25.72	+14 24 58.27	— 8.34	—55.73		
41												
42												
43												
44												
45	+ 0.20	— 0.36	+ 0.82	— 53.47	134 32 5.52	40.805	23 51 8.05	— 4 22 15.23	— 8.59	—55.58		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	25.47	29.08	31.70	34.37	37.86										
	2		B.	55.92	58.72	0.87	3.11	5.80										
Sept. 27	3	β Leonis	C.	25.90	27.54	29.61	31.77	34.20	11 41 29.92	61.0	57.6	60.0	59.7	154 17 59.58	VI. 39.519	30.115	57.4	68.8
	4		D.	54.00	56.00	58.89	1.50	3.87										
	5		E.	22.04	24.54	28.31	31.98	34.90										
	6		A.	48.28	51.71	54.12	56.80	0.00										
	7		B.	17.82	20.65	22.45	24.61	27.18										
28	8	Sun, I.	C.	46.25	48.28	50.46	52.49	54.82	12 19 50.48	59.9	54.9	57.0	53.7	136 38 56.37	II. 38.000	30.100	69.1	70.3
	9		D.	13.68	15.92	18.50	20.70	23.12										
	10		E.	40.70	43.51	46.81	50.00	53.08										
	11		A.	56.61	0.80	3.00	5.05	8.22										
	12		B.	26.00	28.40	30.59	32.71	35.08										
	13	Sun, II.	C.	54.51	56.51	58.82	0.80	2.96	12 21 58.80	60.2	55.3	57.5	54.2	136 38 56.80	X. 43.014	- -	- -	- -
	14		D.	21.88	24.23	26.53	29.22	31.57										
	15		E.	49.19	51.65	55.20	58.88	1.60										
	16									59.8	57.8	60.5	58.8	357 47 59.22				
	17	Nadir	- -	- -	- -	- -	- -	- -	- - -	59.6	57.4	59.9	59.3	59.05	VI. 40.886	- -	- -	- -
	18									59.5	57.4	60.0	59.4	59.08				
	19		B.	30.00	51.00	30.00	11.00	41.00										
	20	Polaris, S. P.	C.	54.00	16.00	36.00	59.00	19.00	13 6 35.73	59.6	55.5	61 0	54.4	230 20 57.62	VI. 39.345	30.087	69.7	72.9
	21		D.	37.00	13.00	36.00	59.00	44.00										
	22		A.	20.84	24.20	26.82	29.45	32.70										
	23		B.	50.51	53.22	55.52	57.60	0.30										
	24	α Virginis	C.	19.57	21.60	23.87	25.82	28.25	13 17 23.93	59.5	56.4	57.0	56.8	128 29 57.12	VI. 37.005	30.081	70.0	72.3
	25		D.	47.40	49.69	52.38	54.83	57.18										
	26		E.	15.13	17.49	21.23	24.93	27.63										
	27		A.	33.40	35.63	38.35	41.16	44.40										
	28		B.	3.18	6.08	8.00	10.59	13.00										
	29	η Bootis	C.	33.20	35.60	37.87	40.00	42.35	13 47 37.84	60.3	60.2	62.0	60.0	158 3 0.62	VI. 40.498	30.073	70.2	73.1
	30		D.	2.21	4.75	7.48	10.05	12.37										
	31		E.	30.80	33.76	37.53	40.21	44.11										
	32		B.	19.50	22.40	- -	27.90	29.61										
	33		C.	49.63	51.94	54.24	56.38	58.88										
	34	α Bootis	D.	18.96	21.05	24.08	26.80	29.03	14 9 11.69	60.2	59.4	60.8	60.0	158 51 0 10	VI. 39.116	30.070	70.7	73.4
	35		E.	47.88	50.57	54.27	58.13	0.95										
	36		B.	2.14	12.37	19.90	28.90	38.09										
	37		C.	50.30	58.73	6.92	15.00	23.08										
	38	β Ursæ Minoris	D.	34.91	43.78	53.27	2.78	11.26	14 51 40.48	58.6	56.2	61.2	55.1	213 38 57.78	VI. 40.085	30.052	70.8	73.2
	39		E.	18.40	27.67	41.18	- -	-										
	40		A.	0.70	3.78	6.21	8.71	12.00										
	41		B.	30.15	32.41	34.55	36.72	39.32										
	42	β Libræ	C.	58.46	0.70	2.78	4.98	7.23	15 9 3 01	59.8	56.1	58.6	57.4	130 2 57.97	VI. 36.729	30.049	71.0	72.7
	43		D.	26.70	28.61	31.36	33.76	36 22										
	44		E.	53.76	56.38	59.66	3.70	6.38										
	45		A.	15 32	19.22	21.96	24.86	28.80										
	46		B.	48.58	51.38	53.67	56.07	58.90										
	47	α Coronæ Borealis	C.	20.25	22.90	25.34	27.56	30.00	15 28 25.23	67.1	67.1	69.2	66.8	166 6 7.55	VI. 38.242	30.041	71.0	73.0
	48		D.	51.18	53.78	56.67	59.41	1.98										
	49		E.	21.71	24.42	28 56	32.72	35.61										

CORRECTIONS, &c.

1 rev. of mic. = 34″.000.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Sept. 27 22	− 0 0.38	+ 0.010	+ 0.134	+ 0.129	+ 0.075
28 14	− 0 0.03	+ 0.002	+ 0.134	+ 0.129	+ 0.075

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.25	− 0.03	+ 47.79	− 24.51	154 18 22.86	40.912	11 41 30.14	+15 24 2.11	− 6.06	+41.22	D. M.	
4												
5												
6												
7												
8	+ 0.21	− 0.03	+16 14.93	− 42.99	136 54 28.52							
9												
10												
11						- -	12 20 54.82	− 2 15 54.17	- -	- -		
12												
13	+ 0.21	− 0.03	−15 48.17	− 43.77	136 22 24.64							
14												
15												
16												
17	- - -	- -	- - -	- - -	- - - -	40.912	- - -	- - - -	- -	- -		
18												
19												
20	− 10.33	+ 5.07	+ 53.75	+1 12.82	230 23 4.19	.	13 6 30.47	+88 31 16.56	−89.73	−42.97		20. Unsteady.
21												
22												
23												
24	+ 0.19	− 0.03	+ 2 14.02	−1 4.81	128 31 6.63	- -	13 17 24.09	−10 23 14.12	− 6.31	+38.19		
25												
26												
27												
28												
29	+ 0.26	− 0.03	+ 14.20	− 20.03	158 2 55.79	- -	13 47 38.07	+19 8 35.04	− 5.71	+33.97		
30												
31												
32												
33	− 17.03	− 0.03	+ 1 1.61	− 19.13	158 51 42.58	- -	14 8 54.63	+19 57 21.83	− 5.32	+35.69		
34												
35												
36												
37	− 32.55	− 0.03	+ 28.37	+ 40.28	213 40 6.43	- -	14 51 7.90	+74 45 45.68	+ 4.45	+22.44		37. Cloudy.
38												
39												
40												
41												
42	+ 0.19	− 0.03	+ 2 23.50	−1 1.26	130 4 20.21	- -	15 9 3.17	− 8 50 0.54	− 6.76	+26.56		42. Unsteady.
43												
44												
45												
46												
47	+ 0.28	− 0.03	+ 1 31.59	− 11.52	166 7 27.62	40.912	15 28 25.48	+27 13 6.87	− 5.11	+16.42		
48												
49												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									59 8	57.0	60.9	61.0	357 47 59.67				
Sept. 28	2	Nadir								59.4	57.5	60.9	61.5	59.82	VI. 40.775			
	3									59.2	57.4	60.6	62.1	59.82				
	4		A.	27.02	30.60	32.96	35.39	38.77										
	5		B.	56.58	58.80	1.29	3.29	5.91										
	6	20 Ceti	C.	24.95	26.81	28.89	31.19	33.33	0 45 29.14	58.5	55.9	57.5	58.2	136 56 57.52	VI. 38.104	[illegible]	66.9	57.0
	7		D.	52.10	54.31	57.10	59.35	1.91										
	8		E.	19.47	21.80	25.57	29.32	31.91										
	9		A.	44.08	47.70	50.06	52.88	56.28										
	10		B.	15.00	16.96	18.94	20.83	23.55										
	11	Moon II., N. S.	C.	43.00	44.99	47.37	49.42	51.41	1 10 47.35	58.4	55.9	56.3	58.1	140 32 57.18	II. 40.250 X. 41.228	[illegible]	67.0	56.5
	12		D.	10.86	13.00	15.53	18.31	20.66										
	13		E.	38.83	41.29	44.91	48.52	51.40										
	14		A.	26.04	29.60	32.02	34.88	38.10										
	15		B.	55.24	58.16	0.30	2.64	4.74										
	16	μ Piscium	C.	23.69	26.11	28.12	30.14	32.61	1 22 28.35	58.0	55.8	55.7	59.6	144 17 57.28	VI. 40.726	[illegible]	67.1	56.0
	17		D.	51.28	53.56	56.19	59.14	1.22										
	18		E.	18.79	21.36	24.95	28.52	31.24										
	19		A.	43.80	47.40	49.98	52.60	55.80										
	20		B.	13.60	16.12	18.40	20.42	22.90										
	21	ν Piscium	C.	41.93	43.98	46.38	48.30	50.50	1 33 46.28	54.5	51.7	51.1	56.4	143 38 53.47	VI. 39.735	30.044	67.4	55.9
	22		D.	9.30	11.69	14.29	16.90	19.00										
	23		E.	36.52	39.07	42.74	46.28	49.14										
	24		A.	45.22	49.09	51.97	54.67	58.10										
	25		B.	17.17	19.90	22.56	24.44	27.48										
	26	α Arietis	C.	47.73	50.16	52.65	54.92	57.35	1 58 52.71	61.0	59.9	63.2	63.1	161 39 1.80	VI. 38.290	30.037	66.1	55.5
	27		D.	17.61	20.09	22.91	25.90	28.28										
	28		E.	47.31	49.90	53.78	57.82	0.77										
	29		A.	38.20	41.70	43.91	46.31	49.62										
	30		B.	7.23	9.70	11.76	13.44	16.14										
	31	γ Ceti	C.	35.72	37.90	40 18	42.09	44.45	2 35 40.05	62.0	68.9	61.2	65.0	141 30 4.28	VI. 37.482	30.027	65.1	53.9
	32		D.	3.15	5.61	8.11	10.62	12.68										
	33		E.	30.52	32.89	36.27	40.19	42.80										
	34		A.	32.80	36.00	38.70	41.04	44.42										
	35		B.	-	4.80	7.06	9.00	11.33										
	36	α Ceti	C.	30.35	32.74	34.83	37.11	39.11	2 54 36.08	60.8	59.8	59.2	61.1	142 24 0.22	VI. 37.834	- -	- -	- -
	37		D.	57.50	0.13	2.77	5.31	7.50										
	38		E.	25.37	27.75	31.22	34.60	37.53										
	39		B.	10.91	13.46	16.00	18.40	21.25										
	40	Saturn, I., S.	C.	40.05	42.47	44.78	46.61	48.61	3 1 59.26	61.5	60.6	60.4	63.8	153 27 1.57	VI. 42.363	30.024	64.2	53.4
	41		D.	8.70	10.85	13.20	16.20	18.70										
	42		E.	36.90	39.40	43.16	46.52	49.57										
	43		B.	12.00	14.70	17.21	19.30	22.19										
	44	Saturn, II., N.	C.	41.31	43.65	45.79	47.80	49.90	3 2 0.47	- -	- -	- -	- -	- - -	VI. 41.784	- -	- -	- -
	45		D.	9.85	12.04	14.57	17.38	19.80										
	46		E.	38.17	40.61	44.30	47.87	50.81										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.						
d.	h.	m. s.	s.	s.	s.	s.
Sept. 28	2	− 0 0.01	+ 0.005	+ 0.134	+ 0.129	+ 0.075

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- - -	- - -	- - -	- - - -	40.782	- - - -	- - -	- -	-	D. M.	
3												
4												
5												
6	+ 0.21	− 0.02	+ 1 31.87	− 51.42	136 57 37.97	- -	0 45 29.33	− 1 56 42.78	− 8.58	−55.11		
7												
8												
9												
10												
11	−1 0.62	− 0.01	+14 53.29	+31 38.80	141 19 29.27	- -	1 9 46.72	+ 2 10 27.03	- -	- -		
12			−14 51.36	+32 0.46	140 50 6.28							
13												
14												
15												
16	+ 0.22	− 0.01	+ 1.92	− 38.12	144 17 21.08	- -	1 22 28.56	+ 5 23 0.33	− 8.72	−52.29		
17												
18												
19												
20												
21	+ 0.21	− 0.01	+ 35.92	− 39.08	143 38 50.26	- -	1 33 46.48	+ 4 44 29.51	− 8.67	−51.68		
22												
23												
24												
25												
26	+ 0.27	− 0.01	+ 1 25.49	− 16.67	161 40 10.62	- -	1 58 52.97	+22 45 49.87	− 9.30	−45.99		
27												
28												
29												
30												
31	+ 0.21	− 0.01	+ 1 53.20	− 42.40	141 31 15.08	- -	2 35 40.25	+ 2 36 54.33	− 8.48	−44.62		
32												
33												
34												
35												
36	− 1.16	0.00	+ 1 41.13	− 41.17	142 25 0.18	- -	2 54 34.92	+ 3 30 39.43	− 8.49	−41.92		
37												
38												
39												
40												
41	− 14.25	0.00	− 54.23	− 16.80	153 25 50.54	- -	3 1 45.63	+14 31 29.79	- -	- -		
42												
43												
44												
45	− 14.25	0.00	− 34.37	− 16.80	153 25 52.40	- -	3 1 45.63	+14 31 49.35	- -	-		
46												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	27.45	30.96	33.82	36.25	39.65										
	2		B.	57.20	0.28	2 25	4.32	6.98										
Sept. 28	3	Vesta - - - -	C.	25.78	27.80	30.10	32.47	34.60	3 16 30.35	60.1	60.6	61.5	63.0	146 42 1.30	VI. 38.889	[illegible]021	64.0	53.1
	4		D.	53.42	55.71	58.41	1.15	3.50										
	5		E.	21.00	23.61	27.38	31.10	33.57										
	6									60.1	58.2	59.7	61.8	357 47 59 95				
29	7	Nadir - - -	- -	- -		- -		- -	- - - -	59.8	58.1	60.0	62.5	48 0.10	VI. 40.670		- -	- -
	8		A.	45.10	48.82	51.47	53.98	57.52										
	9		B.	14.92	17.56	19.82	21.95	24.75										
	10	β Aquarii - - -	C.	43.32	45.67	47.81	50.20	52.31	21 23 47.93	57.1	54.5	54.0	57.4	132 41 55.75	VI. 39.898	[illegible]175	64.6	52.5
	11		D.	11.43	13.32	16.14	18.71	20.89										
	12		E.	38.16	40.83	44.79	48.15	50.75										
	13		B.	7.75	11.30	14.31	17.60	21.35										
	14		C.	49.59	53.03	55.98	59.04	2.58										
	15	α Gruis - - -	D.	30.18	33.17	37.46	41.18	44.65	21 59 16.89	50.1	42.7	48.1	47.8	91 26 47.18	VI. 40.873	[illegible]170	62.1	51.8
	16		E.	10.43	14.04	20.05	25.25	28.87										
	17		A.	6.50	10.08	12.81	15.85	19.30										
	18		B.	37.84	40.78	43.19	45.49	48.12										
30	19	δ Leonis - - -	C.	8.47	10.96	13.27	15.31	17.63	11 6 13.07	58.2	55.2	55.9	58.2	160 14 56.88	VI. 41.352	[illegible]371	61.8	60.8
	20		D.	35.49	38.31	43.08	45.87	48.52										
	21		E.	7.36	10.24	13.41	17.54	21.30										
	22		A.	24.81	28.64	31.51	34.09	37.64										
	23		B.	55.52	58.54	0.90	3.11	5.63										
	24	β Leonis - - -	C.	25.24	27.43	29.53	31.87	34.28	11 41 28.00	- -	- -	- -	- -	- - - -	- - - -	- -	-	- -
	25		D.	55.35	57.66	0.34	2.81	5.50										
	26		E.	- -	26.27	28.49	32.07	34.84										
	27									60.1	58.2	59 9	61.8	357 48 0.00				
	28	Nadir - - -	-	·	- -	- -	- -	- -	- -	60.6	57.9	59.6	61.8	47 59.82	VI. 40.819	30.374	62.4	- -
	29									59.9	57.6	59.4	61.7	47 59.65				
	30		A.	29.66	35.26	39.31	43.42	48.79										
	31		B.	16.69	21.00	24.38	24.78	31.89										
	32	γ Draconis - -	C.	2.40	5.89	9.30	12.56	16.05	17 53 9.42	- -		- -	-	- - - -	-	- -	-	- -
	33		D.	46.29	50.14	54.22	58.31	2.00										
	34		E.	30.17	34.22	40.00	45.60	50.20										
	35		A.	11.50	9.70	52.00	35.80	32.00										
	36		B.	30 70	17.00	51.50	27.50	12.00										
	37	δ Ursæ Minoris	C.	32.00	7.40	43.50	18.10	54.20	18 20 44.07	- -	-	-	- -	- - - -	- - - -	-	-	- -
	38		D.	14.00	53.80	37.00	20.00	56.00										
	39		E.	54.00	37.00	36.50	37.20	23.00										
	40		B.	58.19	1.43	4.11	6.51	9.37										
	41		C.	32.39	34.76	37.38	39.79	42.58										
	42	β Lyræ - - - -	D.	4.96	7.71	10.62	13.73	16.38	18 44 54.22	- -	- -	- -	- -	- - -	- - - -	- - -	- -	
	43		E.	37.74	40.31	45.10	48.92	52.46										
	44		A.	23.86	29.00	32.98	36.70	41.20										
	45		B.	7.87	11.62	14.55	18.00	21.86										
	46	α Gruis - - - -	C.	49.79	53.22	56.30	59.70	2.50	21 58 56.42	61.5	54.3	60.0	59.5	91 26 58.82	VI. 41.685	30.299	64.2	56.2
	47		D.	30.61	34.30	38.49	42.39	45.27										
	48		E.	11.10	14.68	20.28	25.29	29.00										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.						
d.	h.	m. s.	s.	s.	s.	s.
Sept. 28	3	0 0.00	- - -	+ 0.134	+ 0.129	+ 0.075
29	22	− 0 0.16	- - -	+ 0.134	+ 0.129	+ 0.075
30	11½	+ 0 0.46	- - -	+ 0.134	+ 0.129	+ 0.075
30	21	+ 0 0.09	− 0.006	+ 0.033	+ 0.513	+ 0.095

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.22	0.00	+1 4.94	— 32.33	146 42 33.90	40.782	3 16 30.57	+ 7 48 13.16	- -	- -	D. M.	3. Unsteady.
4												
5												
6												
7	- - -	- - -	- -	- - -	- - - -	40.669	- - -	- - - -	-	-		
8												
9												
10	+ 0.20	— 0.16	+ 26.45	— 58.39	132 41 23.81	- -	21 23 47.97	— 6 12 56.94	— 8.45	—43.85		10. Very unsteady.
11												
12												
13												
14	— 20.74	— 0.16	— 7.00	—12 33.82	91 14 6.36	- -	21 58 55.99	—47 40 14.41	—10.63	—37.82		
15												
16												
17												
18												
19	+ 0.27	+ 0.46	— 18.11	— 18.26	160 14 20.51	- -	11 6 13.80	+21 19 59.76	— 6.46	+42.33		19. Very faint and unsteady.
20												
21												
22												
23												
24	+ 2.42	+ 0.46	- - -	- - -	- - - -	- -	11 41 30.88	- - - -	— 6.10	- -		
25												
26												
27												
28	- - -	- - -	- - -	- - -	. . . .	40.824	- - - -	- - - -	- -	-		
29												
30												
31												
32	+ 0.83	+ 0.11	- -	- -	- - - -	- -	17 53 10.36	- - - -	— 2.97	- -	J. M.	
33												
34												
35												
36												
37	+ 10.28	- - -	- -	- -	- - - -	-	- - -	- - - -	- -	- -		
38												
39												
40												
41												
42	— 16.30	+ 0.10	- - -	- - -	- - - -	- -	18 44 38.02	- - - -	— 5.37	- -		
43												
44												
45												
46	— 0.39	+ 0.08	— 33.21	—12 30.22	91 13 55.39		21 58 56.11	—47 40 25.36	—10.62	—37.64		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									57.0	56.1	57.4	60.5	357 47 57.75				
Sept. 30	2	Nadir		- -	- -	- -	- -	- -	- -	57.3	56.2	57.4	59.5	57.60	VI. 40.648	-	- -	- -
	3									57.2	55.8	57.1	60.0	57.52				
	4		A.	53.56	57.17	0.31	3.08	6.89										
	5	o Arg S. 22360	C.	56.38	58.74	1.04	3.11	5.35	22 34 30.56	60.5	57.7	57.7	59.7	116 23 58.90	IV. 44.660	30.290	62.0	48.9
	6	Anonymous	C.	2.45	4.81	7.18	9.54	11.59	22 36 7.11	60.5	57.7	57.7	59.7	116 23 58.90	IV. 42.280	- -	- -	- -
	7		A.	18.46	22.07	24.78	28.20	32.09										
	8		B.	52.35	55.41	57.90	0.22	3.23										
	9	α Piscis Australis	C.	25.34	27.75	30.26	32.71	35.13	22 49 30.30		-	- -	- -	- - -	- - -	- -	- -	- -
	10		D.	57.10	59.61	2.59	5.61	8.28										
	11		E.	28.58	31.68	35.65	39.78	42.81										
	12		A.	20.78	24.71	27.32	29.85	33.38										
	13		B.	51.26	54.00	56.49	58.58	1.25										
	14	α Pegasi	C.	20.94	23.11	25.38	27.40	29.65	22 57 25.28	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	15		D.	49.10	51.75	54.20	56.58	58.92										
	16		E.	17.14	19.67	23.37	27.31	29.85										
	17		A.	39.25	42.77	45.37	47.91	51.18										
	18		B.	- -	10.86	- -	15.79	18.33										
Oct. 1	19	Sun, I., N. S.	C.	37.39	39.39	41.60	43.88	45.65	12 30 44.33	59.4	58.1	56.8	58.2	135 29 58.12	II. 39.580			
	20		D.	4.86	7.36	9.54	12.21	14.31		59.2	57.5	55.6	57.9	57.55	XI. 34.332	-	- -	-
	21		E.	32.19	34.77	38.40	47.08	44.57										
	22	Polaris, S. P.	C.	1.00	28.00	47.00	10.00	32.00	13 6 47.60	60.3	55.9	63.1	59.1	230 20 59.60	VI. 39.355	30.352	64.9	65.7
	23									58.2	56.6	59.0	59.2	357 47 58.25				
	24	Nadir		- -	- -	- -	-	- -	- - -	57.8	56.1	58.6	59.4	57.97	VI. 40.525	- -	- -	68.0
	25		B.	40.03	42.90	44.98	46.75	49.35										
	26		C.	8.81	10.89	12.97	14.92	17.18										
	27	α Aquarii	D.	36.01	37.93	40.60	43.27	45.60	21 58 26.89	58.9	57.7	58.4	58.7	137 53 58.42	VI. 41.990	30.328	62.4	52.0
	28		E.	3.03	5.38	9.06	12.80	15.32										
	29		A.	4.10	7.20	9.80	12.65	16.20										
	30		B.	33.80	36.40	38.45	40.50	43.45										
	31	ζ Pegasi	C.	4.44	4.56	7.00	9.30	11.32	22 34 7.01	59.4	59.6	62.0	62.3	149 0 0.82	VI. 42.784	30.324	61.5	51.0
	32		D.	30.31	32.73	34.96	37.55	39.92										
	33		E.	57.70	0.18	3.96	6.49	10.38										
	34									59.7	58.0	59.8	63.0	357 48 0.12				
2	35	Nadir		- -	- -	- -	- -	- -	- - -	59.9	58.6	60.7	62.9	0.52	VI. 40.706	- -	- -	- -
	36									59.5	58.5	60.0	62.9	0.22				
	37		A.	50.80	54.40	57.00	59.60	2.69										
	38		B.	20.72	23.42	25.75	27.70	30.34										
	39	Neptune	C.	49.40	51.62	54.00	55.95	58.13	22 44 53.82	61.8	61.0	57.8	62.4	129 30 0.75	VI. 42.925	30.290	62.8	55.3
	40		D.	16.75	19.53	22.21	24.77	27.00										
	41		E.	44.44	47.32	50.69	54.29	56.95										
	42		B.	51.37	54.14	56.39	58.49	1.12										
	43		C.	20.59	22.88	25.21	27.29	29.31										
	44	α Pegasi	D.	48.87	51.40	53.85	56.80	58.88	22 57 39.65	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	45		E.	17.00	19.58	23.19	26.81	29.90										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Sept. 30	21	+0 0.09	−0.006	+ 0.033	+ 0.513	+ 0.095
Oct. 1	22	−0 0.07	−0.006	+ 0.033	+ 0.513	+ 0.095
2	23	+0 0.37	- -	+ 0.033	+ 0.513	+ 0.095

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- - -	- - - -	- - -	- - -	40.717		- - - -	- -	-	J. M.	
3												
4												
5	+ 30.35	+ 0.08	+ 6 32.52	— 1 47.16	116 28 44.26	-	22 35 0.99	—22 25 36.49	— 8.79	—47.62		
6	— 0.01	+ 0.08	+ 7 54.17	— 1 47.05	116 30 6.02	- -	22 36 7.18	—22 24 14.73	— 8.80	—47.66		
7												
8												
9	— 0.16	+ 0.08	- - -	-	- - - -	- -	22 49 30.22	- - - -	— 9.30			
10												
11												
12												
13												
14	+ 0.26	+ 0.08	- - - -	- - -	- - - -	- -	22 57 25.62	- - - -	— 8.33	- -		
15												
16												
17												
18												
19	+ 61.77	— 0.02	+15 9.34 —16 52.19	— 45.77 — 46.68	135 44 21.40 135 12 18.96	- -	12 31 46.08	— 3 26 0.57		- -	D. M.	
20												
21												
22	— 26.06	- - -	+ 42.02	+ 1 14.49	230 22 56.11	.	- - - -	+88 31 24.64	- -	—44.09		22. Unsteady.
23												
24	- -	- -	-	- - - -	- - - -	40.580	- - -	- - - -	- -	- -		
25												
26												
27	— 13.90	— 0.07	— 44.32	— 49.02	137 52 25.08	- -	21 58 12.92	— 1 1 55.67	— 8.36	—49.22		
28												
29												
30												
31	+ 0.22	— 0.07	— 1 11.56	— 32.32	148 58 16.94	- -	22 34 7.16	+10 3 56.19	— 8.26	—54.34		
32												
33												
34												
35	- - -	- - -	- - - -	- - -	- - -	40.698	- - - -	- - - -	- -	-		
36												
37												
38												
39	+ 0.04	+ 0.37	— 1 16.40	— 1 5.05	129 27 39.30	-	22 44 54.23	— 8 26 41.45	- -	- -		
40												
41												
42												
43	— 14.23	+ 0.37	- - - -	- - -	- - -	-	22 57 25.79	- -	— 8.32	- -		
44												
45												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	25.08	28.78	31.27	34.12	37.60										
	2		B.	55.44	58.39	0.55	2.63	5.52										
Oct. 4	3	β Leonis	C.	25.13	27.30	-	31.66	33.85	11 41 29.61	40.0	43.3	38.0	40.1	154 17 40.35	VI. 39.031	29.971	67.0	67.0
	4		D.	53.45	56.05	58.58	1.11	3.45										
	5		E.	21.78	24.38	28.13	31.75	34.64										
	6		A.	19.81	23.36	25.90	28.60	31.75										
	7	Mercury, II., N.	B.	46.29	49.36	52.09	54.43	56.40	12 7 51.53	59.3	58.9	60.1	62.0	139 21 0.08	VI. 37.955	29.965	68.8	67.9
	8		C.	-	20.21	22.22	24.42	26.51										
	9		A.	57.00	42.00	6.00	22.00	2.00										
	10		B.	24.00	51.00	31.00	12.00	38.00										
5	11	Polaris, S. P.	C.	50.00	13.00	33.00	56.00	19.00	13 6 32.16	61.1	58.0	64.5	61.4	230 21 1 25	VI. 39.515	29.941	69.2	69.1
	12		D.	29.00	10.00	30.00	54.00	39.00		59.9	57.3	64.0	60.5	0 42				
	13		E.	2 00	6.00	49.00	23.00	46.00										
	14	Nadir		- - -	- - -	- - -	-	- -	- -	60.4	62.0	63.9	66.3	357 48 3.15	VI. 41.041	- -	- -	- -
	15									59.9	61.8	63.8	66.4	2.98				
	16		A.	58.61	2.88	6.30	9.46	13.74										
	17		B.	35.78	39.36	42.30	44.82	47.89										
	18	61[1] Cygni	C.	12.00	14.61	17.53	20.13	22.84	21 0 17.52	64.5	68.0	71.9	71.7	176 57 9.02	VI. 42.617	29.886	68.9	61.0
	19		D.	46.49	49.86	53.09	56.25	59.16										
	20		E.	21.10	24.32	29.11	33.50	36.86										
	21		A.	0.05	4.50	7.72	11.00	15.04										
	22		B.	37.43	40.91	43.54	46.14	49.30										
	23	61[2] Cygni	C.	13.40	15.95	18.81	21.42	24.08	21 0 18.96	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	24		D.	48.10	51.20	54.53	57.62	0.55										
	25		E.	22.66	25.90	30.62	35.07	38.41										
	26		A.	57.00	42.00	2.00	23.00	3.00										
	27		B.	31.00	54.00	31.00	14.00	42.00										
6	28	Polaris, S. P.	C.	57.00	21.00	41.00	3.00	25.00	13 6 39.40	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	29		D.	42.00	22.00	45.00	7.00	49 00										
	30		E.	11.00	21.00	1.50	41.50	59.00										
	31									59.4	57.4	59.2	61.8	357 47 59.45				
	32	Nadir		- - -	- - -	- - -	-	- -	- - -	59.5	57.8	59.5	61.9	59.67	VI. 40.905	- -	- -	- -
	33									59.3	57.5	59.0	61.7	59.38				
	34		A.	47.11	50.70	53.32	56.20	59.80										
	35		B.	18.20	21.14	23.31	25.70	28.44										
	36	α Bootis	C.	48.49	50.82	53.11	55.32	57.69	14 8 53.16	- -	- -	-	- -	- - - -	- - - -	- -	-	-
	37		D.	17.83	20.21	22.86	25.52	27.91										
	38		E.	46.40	49.29	53.00	56.89	59.72										
	39		A.	55.19	58.58	1.19	4.00	7.25										
	40		B.	24.67	27.33	29.53	31.75	34.32										
	41	α Serpentis	C.	53.42	55.66	57.80	59.85	2.12	15 36 57.82	59.5	58.3	56.4	59.5	145 47 58.42	VI. 39.685	29.736	71.5	76.8
	42		D.	21.00	23.45	26.00	28.60	30.84		60.8	59.7	59.0	61.4	48 0.22				
	43		E.	48.48	50.90	54.50	58.14	0.91										
	44		A.	- -	46.86	49.60	52.44	56.09										
	45		B.	14.61	17.50	19.72	22.07	24.63										
	46	β[1] Scorpii	C.	44.73	47.10	49.43	51.52	53.86	15 56 49.38	-	- -	-		- - -	- - - -	- -	-	- -
	47		D.	13.90	16.35	19.10	21 80	24.00										
	48		E.	42.62	45.46	49.20	53.00	- -										

CORRECTIONS, &c.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852.						
d.	h.	m s.	s.	s.	s.	s.
Oct. 4	12	+ 0 0.50	+ 0 008	− 0.113	+ 0.388	+ 0.265
		- - -	- -	− 0.113	+ 0.388	+ 0.265
5	21	− 0 0 21	- -	− 0.113	+ 0.388	+ 0.265
6	15	+ 0 1.09	+ 0.010	− 0.113	+ 0.388	+ 0.265

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.28	+ 0.50	+ 1 5.89	— 24.46	154 18 21.78	- -	11 41 30.39	+15 24 1.03	— 6.13	—38.07	D. M.	
4												
5												
6												
7	+ 31.88	+ 0.50	+ 1 42.81	— 42.84	139 22 0.05	- -	12 8 23.91	+ 0 27 39.30	- -	- -		
8												
9												
10												
11	— 25.42	- - -	+ 49.29	+ 1 12.93	230 23 3.05	- -	- - - -	+88 31 17.70	- -	—45.66		
12												
13												
14												
15	- - -	- - -	- -	- - -	- - - -	40.952	- - - -	- - - -	- -	- -		
16												
17												
18	+ 0.53	— 0.21	— 58.21	— 0.86	176 56 9.95	-	21 0 17.84	+38 1 49.20	— 7.37	—59.17		18. Unsteady.
19												
20												
21												
22												
23	+ 0.53	— 0.21	- - -	- - -	- - - -	- -	21 0 19.28	- - - -	— 7.37	- -		
24												
25												
26												
27												
28	— 25.42	+ 17.92	- - -	- - -	- - - -	- -	13 6 31.90	- - - -	—91.38	- -	J. M.	
29												
30												
31												
32	- - -	- -	- - -	- - -	- - - -	40.920	- - - -	- - - -	- -	-		
33												
34												
35												
36	+ 0.31	+ 1.08	- - -	- - -	- - - -	- -	14 8 54.55		— 5.28	- -		
37												
38												
39												
40												
41	+ 0.22	+ 1.10	+ 42.37	— 34.21	145 48 7.48	- -	15 36 59.14	+ 6 53 46.73	— 6.14	+18.85		
42												
43												
44												
45												
46	+ 0.03	+ 1.10	- - -	- - -	- - - -	- -	15 56 50.51	- - - -	— 7.43	- -		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	′	″	° ′ ″	r.	in.	°	°
	1		A.	43.41	52.42	0.90	8.52	17.50										
	2		B.	8.60	17.32	22.88	28.91	36.52										
Oct. 8	3	β Cephei	C.	31.43	37.50	43.70	49.61	56.32	21 26 44.27	60.7	57.5	62.7	56.2	208 47 59.27	VI. 39.445	29.970	75.0	70.6
	4		D.	51.06	58.21	5.68	13.17	19.60										
	5		E.	10.75	18.11	28.75	38.87	46.90										
	6		A.	21.84	26.88	30.90	34.50	39.55										
	7		B.	5.38	9.00	12.18	15.60	19.31										
	8	α Gruis	C.	47.72	50.54	53.86	56.95	0.27	21 58 54.10	60.7	50.4	53.7	53.8	91 23 54.65	VI. 37.940	29.968	74.5	70.2
	9		D.	28.22	31.82	35.72	39.27	42.69		61.4	51.5	56.0	54.0	55.72				
	10		E.	8.79	13.08	17.87	23.00	27.53										
	11		C.	1.27	3.50	5.15	7.80	9.94										
	12	ζ Pegasi	D.	29.20	31.60	34.12	36.66	38.66	22 34 34.15	- -	- -	-	- -	- -	- - - -	- -	- -	- -
	13		E.	56.64	59.25	2.72	6.39	9.31										
	14									61.2	55.5	58.0	59.7	357 47 58.60				
	15	Nadir	- -	- -	- -	- -	- -	- -	- - -	61.2	56.0	57.7	60.0	58.72	VI. 40.824	-	- -	- -
	16									61.5	56.5	57.8	60.2	59.00				
	17		A.	17.28	21.00	23.69	26.69	30.28										
	18		B.	50.48	53.67	56.22	58.69	1.43										
	19	α Piscis Australis	C.	23.58	25.93	28.58	30.98	33.46	22 49 28.68	60.8	54.2	57.8	56.3	108 32 57.28	VI. 41.555	-	- -	69.5
	20		D.	55.21	58.00	1.07	3.95	6.29		61.5	58.2	55.8	55.4	57.72				
	21		E.	26.90	30.17	34.00	38.28	41.18										
	22		A.	- -	- -	26.28	28.90	32.38										
	23		B.	50.52	53.32	55.32	57.59	0.05										
	24	α Pegasi	C.	19.63	22.00	24.22	26.33	28.54	22 57 29.62	41.5	36.8	37.4	41.0	153 18 39.18	VI. 39.028	- -	- -	- -
	25		D.	47.86	50.31	52.98	55.60	57.89										
	26		E.	15.92	18.45	22.09	26.20	28.89										
	27		A.	48.50	7.22	15.88	27.70	41.85										
	28		B.	57.92	10.47	19.70	28.67	40.58										
	29	γ Cephei	C.	2.44	11.84	20.75	30.76	39.77	22 3 22.29	55.5	51.4	55.2	51.0	215 41 53.28	VI. 41.330	- -	- -	68.7
	30		D.	2.61	12.67	23.82	35.26	45.24										
	31		E.	3.49	14.74	31.15	46.09	58.12										
	32		A.	35.14	37.06	42.07	44.98	48.53										
	33		B.	8.22	11.35	13.65	16.28	19.22										
	34	α Andromedæ	C.	40.64	43.15	45.65	47.88	50.31	0 0 45.56	- -	- -	-	- -	- - - -	- - - -	-	- -	- -
	35		D.	11.91	14.59	17.40	20.21	22.69										
	36		E.	42.50	45.31	49.58	53.80	56.84										
	37		B.	- -	2.50	40.50	14.70	52.00										
	38	Anonymous, S. P.	C.	32.00	3 50	32.00	5.00	38.00	0 19 8.98	54.5	47.3	51.0	48.0	232 44 50.20	VI. 39.601	29.962	71.5	67.7
	39		D.	22.00	0.50	32.00	2.00	41.50		56.2	52.4	49.0	47.8	51.35	39.652			
	40		E.	2.50	52.00	31.50	7.50	58.50										
	41	Com. I. 1852, S. P.	- -	- -	-	- -	- -	- -	- - -	- -	- -	- -	- -	- - -	V. 39.300	- -	- -	-
	42		B.	35.50	18.50	41.00	4.00	43.50										
	43	Polaris	C.	57.00	20.50	43.00	4.00	29.50	1 14 55.50	58.0	53.7	53.7	51.7	227 23 54.27	VI. 39.507	29.965	71.5	66.4
	44		D.	44.00	14.00	53.00	33.50	52.00		57.2	53.5	55.2	52.6	54.62				
	45		E.	28.50	5.50	23.50	46.00	33.50										
	46									55.8	65.5	67.7	68.8	357 3 4.45				
	47	Nadir	- -	- -	-	- -	- -	- -	- - -	55.9	65.4	67.7	69.5	4.62	VI. 40.760	- -	- -	- -
	48									55.7	65.8	68.2	69.4	4.78				

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Oct. 8 23	+ 0 2.23	+ 0.010	− 0.574	+ 0.374	− 0.099

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.16	+ 2.21	+ 48.54	+ 33.57	208 49 21.38	- -	21 26 46.64	+69 55 0.63	− 3.99	−55.05	J. M.	
4												
5												
6												
7												
8	− 1.13	+ 2.22	+ 1 40.31	−12 0.16	91 13 35.33	- -	21 58 55.19	−47 40 45.42	−10.50	−36.21		
9												
10												
11												
12	− 29.10	+ 2.23	- - -	- - -	- - - -	- -	22 34 7.28	- - - -	− 8.21	- -		
13												
14												
15	- - -	- -	- - -	-	- - - -	40.860	- - - -	- - - -	- -	- -		
16												
17												
18												
19	− 0.91	+ 2.23	− 23.84	−2 26.24	108 30 7.42	- -	22 49 30.00	−30 24 13.33	− 9.26	−46.91		
20												
21												
22												
23												
24	− 6.00	+ 2.23	+ 1 3.03	− 25.42	153 19 16.79	- -	22 57 25.85	+14 24 56.04	− 8.29	−56.70		
25												
26												
27												
28												
29	+ 0.59	+ 2.23	− 16.12	+ 43.51	215 42 20.67	- -	23 33 25.11	+76 47 59.92	−10.74	−57.74		
30												
31												
32												
33												
34	− 0.49	+ 2.24	- - -	- - -	- - - -	- -	0 0 47.31	- - -	− 8.80	- -		
35												
36												
37												
38			+ 43.19	+1 19.89	232 46 53.28							
39	−3 30.32	- - -	+ 42.24	+1 19.89	232 46 53.48	- -	- - - -	+86 7 27.37	- -	- -		
40												
41	- - -	- -	+ 3 46.91	+1 20.04	232 49 57.73	- -	- - - -	+86 4 23.02	- -	- -		
42												
43												
44	−8 56.58	- - -	+ 46.41	+1 6.07	227 25 46.92	- -	- - - -	+88 31 26.17	- -	−47.15		
45												
46												
47	- - -	- - -	- - -	- - -	- - - -	40.625	- - - -	- - - -	- -	- -		
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	33.00	12.00	35.00	59.00	37.00										
	2		B.	8.00	34.00	6.00	47.00	18.00										
Oct. 9	3	Polaris S. P.	C.	- -	56.00	14.00	37.00	1.00	13 4 54.39	61.5	53.6	60.7	55.8	230 20 57.90	VI. 39.576	29.942	75.3	79.4
	4		D.	19.00	57.00	23.00	42.00	26.00										
	5		E.	- -	59.00	37.00	18.00	33.00										
	6		A.	16.16	23.40	29.30	34.95	42.05										
	7		B.	19.89	25.51	30.43	34.80	40.50										
10	8	α Ursæ Majoris	C.	21.79	26 23	31.00	34.95	40.03	10 54 30.96	56.8	51.2	57.0	50.5	201 26 53.88	VI. 41.280	30.114	69.9	63.9
	9		D.	21.09	25.93	31.60	37.23	41.64										
	10		E.	20.00	25.35	33.36	40.00	46.85										
	11		A.	24.75	28.39	31.07	33.84	37.29										
	12		B.	55.43	58.06	0.31	2.50	5.09										
	13	β Leonis	C.	24.75	26.90	29.08	31.40	33.71	11 41 29.29	60.1	53.7	55.1	57.4	154 17 56.57	VI. 39.528	30.152	69.6	65.9
	14		D.	53.11	55.75	58.30	0.87	3.13										
	15		E.	21.39	24.00	27.70	31.41	34.10										
	16		A.	36.00	23.00	44.00	5.00	45.00										
	17		B.	13.00	37.00	15.00	53.00	25.00										
	18	Polaris S. P.	C.	38.00	6.00	26.00	48.00	9.00	13 6 19.64	59.3	51.6	58.3	54.6	230 20 55.95	VI. 39.393	30.112	69.8	68.4
	19		D.	24.00	3.00	28.00	50.00	36.00		58.3	51.2	57.7	54.1	55.32				
	20		E.	53.00	2.00	12.00	23.00	39.00										
	21		A.	45.92	50.51	53.40	56.27	59.61										
	22		B.	18.39	21.10	23.48	25.60	28.35										
11	23	α Bootis	C.	48.60	50.90	53.00	55.51	57.61	14 9 53.17	59.6	55.7	55.9	57.8	158 50 57.25	VI. 39.035	30.133	71.0	70.4
	24		D.	17.45	20.16	22.71	25.72	28.00										
	25		E.	46.72	49.30	53.18	56.98	59.70										
	26		B.	47.00	50.19	52.40	54.85	57.51										
	27	α Coronæ Borealis	C.	19.38	21.61	23.90	26.29	28.69	15 28 39.81	-	-	-	-	- - - -	- - - -	- -	-	- -
	28		D.	50.04	52.40	55.59	58.39	0.81										
	29		E.	20.51	23.41	27.37	31.35	34.57										
	30									59.9	55.3	56.7	59.3	357 47 57.80				
	31	Nadir	- -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	60.0	55.2	56.6	59.4	57.80	VI. 40.784	- -	- -	- -
	32									60.0	55.7	56.4	59.4	57.87				
	33		A.	55.18	58.64	1.28	3.95	7.21										
	34		B.	24.87	27.57	29.78	31.95	34.50										
	35	α Serpentis	C.	53.55	55.71	57.72	0.05	2.19	15 36 57.90	62.1	58.2	59.1	61.2	145 48 0.15	VI. 39.666	30.127	71.9	70.4
	36		D.	21.07	23.40	26.07	28.57	30.82										
	37		E.	48.46	51.03	54.62	58.28	1.05										
	38		A.	32.52	35.81	38.51	41.12	44.39										
	39		B.	2.00	4.70	6.82	8.96	11.30										
	40	δ Ophiuchi	C.	30.31	32.46	34.74	36.87	39.00	16 6 34.79	65.4	59.5	61.3	62.9	135 36 2.27	VI. 39.752	30.122	72.0	69.9
	41		D.	57.86	0.32	2.90	5.28	7.41										
	42		E.	25.00	27.80	31.20	34.71	37.59										
	43		A.	10.57	14.40	17.28	20.36	23.61										
	44		B.	43.14	46.07	48.67	50.85	53.69										
	45	α Scorpii	C.	14.95	17.40	19.72	22.00	24.40	16 20 19.78	- -	-	- -	-	- - - -	- - - - -	-	-	-
	46		D.	45.70	47.83	51.00	53.58	56.30										
	47		E.	15.80	18.50	22.54	26.48	29.69										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Oct. 10 0	- - - -	- -	+ 0.430	+ 0.118	+ 0.377
11. 14	+ 0 0.32	− 0.027	+ 0.430	+ 0.118	+ 0.377

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 1 6.58	- - -	+ 43.64	+ 1 11.55	230 22 53.09	-	- - - -	+88 31 27.66	- -	—47.35	D. M.	3. Unsteady.
4												
5												
6												
7												
8	+ 1 49	+ 0.40	— 14.82	+ 24.91	201 27 3.97	40.848	10 54 32.85	+62 32 43.22	— 6.96	+24.23		
9												
10												
11												
12												
13	+ 0.86	+ 0.37	+ 45.28	— 24.65	154 18 17.20	- -	11 41 30.52	+15 23 56.45	— 6.04	+43.26		
14												
15												
16												
17												
18	— 18.76	- -	+ 49.91	+ 1 13.56	230 22 59.10	- -	- - - -	+88 31 21.65	- -	—47.74		
19												
20												
21												
22												
23	+ 0.88	+ 0.32	+ 1 2.19	— 19.28	158 51 40.16	- -	14 9 54.37	+19 57 19.41	— 5.28	+37.99		
24												
25												
26												
27	— 14.86	+ 0.28	- -	- - - -	- - -	- -	15 28 25.23	- - - -	— 4.95	- -		
28												
29												
30												
31	- - - -	- -	- -	- - - -	- -	40.848	- - - -	- - -	- -	- -		
32												
33												
34												
35	+ 0.83	+ 0.28	+ 40.55	— 35.08	145 48 5 62	- -	15 36 59.01	+ 6 53 44.87	— 6.10	+19.35		
36												
37												
38												
39												
40	+ 0.80	+ 0.27	+ 37.60	— 50.92	135 35 48.95	-	16 6 35.88	— 3 18 31.80	— 6.65	+16.47		
41												
42												
43												
44												
45	+ 0.79	+ 0.25	- - -	- - -	- - - -	- -	16 20 20.82	- - - -	— 7.88	- -		
46												
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1									59.4	54.4	55.5	58.4	357 47 56.92				
Oct. 11	2	Nadir								59.3	54.6	55.3	58.1	56.82	40.705			
	3									59.1	54.5	55.5	59.9	57.25				
	4	Anonymous	C.	37.63	39.89	42.18	44.50	46.72	22 1 42.18							30.121	67.8	56.4
	5		A.	29.60	33.03	35.65	38.71	41.90										
	6		B.	0.15	3.00	5.23	7.28	9.80										
	7	Anonymous	C.	29.40	32.00	34.47	36.46	38.69	22 17 19.73									
	8		D.	58.35	0.98	3.41	6.00	8.45										
	9		A.	36.53	39.84	42.70	45.31	48.55										
	10		B.	6.79	9.46	11.52	13.70	16.29										
	11	Anonymous	C.	36.03	38.65	41.56	43.57	45.53	22 20 26.27									
	12		D.	4.56	7.30	10.12	12.46	14.90										
	13		A.	5.08	8.46	11.39	14.00	17.30										
	14		B.	35.87	39.00	40.82	43.32	45.87										
	15	Anonymous	C.	6.04	8.38	10.80	12.69	14.90	23 12 55.70	60.5	55.0	55.1	58.4	119 32 57.25	VI. 37.105	30.117	63.4	55.4
	16		D.	34.80	37.20	39.70	42.87	45.55										
	17		A.	19.25	23.17	25.70	28.50	31.85										
	18		B.	49.12	51.88	53.94	56.25	58.64										
	19	ι Piscium	C.	17.48	19.65	21.90	23.80	26.30	23 32 21.97	58.9	54.3	55.3	57.9	143 44 56.60	VI. 41.031	30.118	62.0	55.1
	20		D.	45.31	47.48	49.92	52.50	54.60										
	21		E.	12.32	14.85	18.21	21.80	24.90										
	22		A.	35.75	39.69	42.53	45.32	48.80										
	23		B.	9.28	11.85	14.85	17.10	19.80										
	24	α Andromedæ	C.	41.40	43.53	46.10	48.60	50.91	0 0 46.27									
	25		D.	12.50	14.52	18.34	21.20	24.07										
	26		E.	43.26	46.20	49.70	54.16	57.41										
	27		A.	34.39	38.15	41.07	43.76	47.04										
	28		B.	4.90	7.85	9.96	12.39	14.70										
	29	γ Pegasi	C.	34.43	36.53	38.84	40.71	43.12	0 5 38.73	59.6	55.1	56.5	60.3	153 17 57.87	VI. 42.759	30.118	61.4	54.5
	30		D.	1.86	4.81	7.60	10.35	12.54										
	31		E.	30.16	32.90	36.73	40.45	42.98										
	32		A.	18.00	28.00	18.00	4.00	5.00										
	33		B.	22.00	10.00	30.00	55.00	32.00										
	34	Polaris	C.	1.00	18.00	39.00	1.00	20.00	1 5 41.00	58.5	54.7	59.1	57.7	227 23 57.50	VI. 39.560	30.114	62.0	54.2
	35		D.	35.00	5.00	43.00	25.00	45.00										
	36		E.	17.00	57.00	12.00	37.00	28.00										
	37									54.3	62.2	68.7	44.0	230 21 2.30				53.4
21	38	Polaris, S. P.		29.00	56.00	18.00	41.00	2.00	13 6 17.20	56.8	61.8	69.0	64.2	2.95	VI. 39.635	30.132	56.0	
	39									56.5	64.4	70.2	66.5	4.40				54.0
	40		A.	48.90	52.34	54.70	57.50	0.95										
	41		B.	18.75	21.40	23.78	25.98	28.68										
	42	Sun, I.	C.	47.91	50.03	52.00	54.36	56.45	13 44 52.91	56.2	64.3	65.8	66.2	127 57 3.12	I. 44.482	30.112	57.2	56.7
	43		D.	16.02	18.19	20.59	23.32	25.54		54.2	62.0	63.9	64.2	1.08	IX. 44.776			
	44		E.	46.33	49.51	53.29	55.97	0.32										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Oct. 11 0	+ 0 0.05	− 0.027	+ 0.430	+ 0.118	+ 0.377
21 14	− 0 11.94	− 0.015	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2	- - -	- - -	- - -	- - -	- - - -	40.793	- - - -	- -	- -	- -	D. M.	
3												
4	+ 0.86	+ 0.10	- - -	- - -	- - -	- -	22 1 43.14	- - - -	- -	- -		
5												
6												
7	+ 15.74	+ 0.10	- -	- -	- - - -	- -	22 17 35.57	- - - -	- -	- -		
8												
9												
10												
11	+ 15.74	+ 0.10	- -	- - -	- - - -	- -	22 20 42.11	- - - -	- -	-		
12												
13												
14												
15	+ 15.74	+ 0.07	+ 2 6.52	− 1 33.06	119 34 30.71	40.793	23 13 11.51	−19 19 50.04	− 8.80	−51.45		
16												
17												
18												
19	+ 0.82	+ 0.06	− 8.16	− 39.10	143 44 9.34	- -	23 32 22.85	+ 4 49 48.59	− 8.60	−55.34		
20												
21												
22												
23												
24	+ 0.93	+ 0.05	-	-	- - -	- -	0 0 47.25	- - - -	− 8.80	- -		
25												
26												
27												
28												
29	+ 0.85	+ 0.05	− 1 7.44	− 26.39	153 16 24.04	- -	0 5 39.63	+14 22 3.29	− 8.68	−57.44		
30												
31												
32												
33												
34	+ 19.62	- - -	+ 42.30	+ 1 8.03	227 25 47.83	-	- - - -	+88 31 27.08	- -	−48.27		
35												
36												
37												
38	− 27.66	+39.26	+ 35.06	+ 1 15.71	230 22 53.99	40.657	13 6 28.80	+88 31 26.76	−91.02	−52.35		38. A. bad.
39												
40												
41												
42	+1 5.79	−11.94	+18 13.42	− 1 1.00	128 14 14.52	- -	13 45 46.76	−10 56 14.12	- -	- -		42. Declination unsatisfactory.
43			−14 1.10	− 1 2.25	127 41 58.75							
44												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	- -	3.85	6.47	8.98	12.70										
	2		B.	- -	33.20	35.27	37.30	39.15										
Oct. 21	3	Sun, II.	C.	59.47	1.81	3.81	5.82	8.00	13 47 7.93	- -	- -	- -	- -	- - - -	- - - -	- -	- -	- -
	4		D.	27.32	29 49	32.44	34.38	37.11										
	5		E.	54.85	57.55	1.02	4.70	7.65										
	6									57.0	65.3	67.8	70.6	357 48 5.18				
	7	Nadir	- -	- -	- -	- -	- -	- -	- - -	56.8	65.3	67.4	70.4	4.98	VI. 40.804	- -	- -	- -
	8									56.7	65.3	67.5	70.5	5.00				
	9		A.	59.06	2.91	5.97	9.28	12.45										
	10		B.	32.40	35.10	37.75	40.11	43.09										
	11	B. A. C. 7750	C.	4.73	7.29	9.24	11.45	14.24	22 6 9.66	56.3	63.3	66.6	65.9	110 24 3.02	VI. 35.825	29.963	59.9	48.1
	12		D.	35.63	38.33	41.33	44.36	46.85										
	13		E.	7.00	9.80	13.92	18.03	21.12										
	14		A.	46.25	50.14	52.55	55.24	58.66										
	15	Anonymous	C.	45.86	48.31	50.81	52.79	54.75	22 31 52.20	56.4	67.0	66.4	67.7	124 3 4 37	VI. 35.028	29.955	58.0	47.1
	16		E.	47.34	49.98	53.35	57.00	59.95										
	17		B.	21.32	23.98	26.24	28.52	30.98										
	18	Anonymous	D.	18.44	21.33	23.82	26.57	28.70	22 31 54.99	56.4	67.0	66.4	67.7	124 3 4.37	VI. 35.941	- -	- -	- -
	19		A.	20.60	24.20	26.88	28.97	32.40										
	20		B.	50.33	53.15	55.74	57.90	0.30										
	21	Anonymous	C.	19.60	21.62	23.74	26.14	28.52	22 58 23 89	56.4	64.7	66.9	67.0	127 39 3.75	VI. 36.123	- -	-	46.3
	22		D.	47.33	49.20	52.39	55.11	57.33										
	23		E.	15.00	17.64	21.00	24.44	27.72										
	24	Lalande, 45704	C.	19.07	21.24	23.45	25.85	27.97	23 13 23.52	55.0	65.5	64.4	65.2	119 36 2.52	VI. 42.518	29.950	56.6	46.0
	25		A.	31.88	35.84	38.28	41.16	44.49										
	26		B.	1.51	4.53	6.80	8.80	11.20										
	27	ι Piscium	C.	30.00	32.39	34.80	36.88	39.00	23 32 34.71	54.7	63.6	65.9	67.8	143 42 3.00	VI. 35.865	29.946	55.9	45.2
	28		D.	37.95	0.00	2.62	5.25	7.31										
	29		E.	25.17	27.70	31.34	34.92	37.85										
	30		A.	32.53	38.50	43.37	47.16	53.45										
	31		B.	24.64	29.14	32.63	36.82	41.48										
	32	α Cassiopeæ	C.	14.86	18.14	22.66	26.32	30.45	0 32 19.10	- -	- -	- -	- -	- - -	- - -	- -	- -	- -
	33		D.	3.25	8.00	11.98	17.22	21.58										
	34		E.	57.23	3.14	9.60	14.32	- -										
	35									56.2	65.6	69.1	71.6	357 48 5.62				
	36	Nadir	- -	- -	- -	- -	- -	-	- - - -	56.6	66.5	68.9	71.5	5.87	VI. 40.777	- -	- -	- -
	37									56.5	66.4	68.9	71.2	5.75				
	38									55.8	65.5	67.7	68.8	357 3 4.45				
Nov. 8	39	Nadir	- -	- -	- -	- -	- -	- -	- - - -	55.9	65.4	67.7	69.5	4.62	VI. 40.760	- -	- -	- -
	40									55.7	65.8	68.2	69.4	4.78				
	41		A.	47.28	52.67	56.90	1.21	6.43										
	42		B.	34.29	38.72	42.19	45.45	49.66										
	43	γ Draconis	C.	20.20	23.63	26.90	30.38	33.67	17 53 26.26	55.2	66.1	68.5	61.4	189 39 2.80	VI. 39.294	30.024	55.7	50.0
	44		D.	4.14	7.89	12.00	16.16	19.69										
	45		E.	45.84	48.03	52.00	57.74	3.34										
	46	α^1 Capricorni	A.	42.60	46.19	48.85	51.42	54.89	20 3 48.79	54 2	63.6	63.0	61 3	125 9 0.52	V. 38.757	30.074	55.2	47.4

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Oct. 21 0	− 0 12.09	− 0.015	+ 0.045	+ 0.579	+ 0.070
Nov. 8 21	− 0 18.81	+ 0.006	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	−1 9.98	−11.94	- - -	- - -	- - - -	- -	13 45 46.01	- - - -	- -	- -	D. M.	
4												
5												
6												
7	- - -	- -	- - -	- - -	- - -	40.657	- - - -	- - - -	- -	- -		
8												
9												
10												
11	− 0.19	−12.06	+ 2 44.94	−2 19.01	110 24 28.95	40.633	22 5 57.41	−28 29 51.80	− 9.08	−41.39		
12												
13												
14												
15	− 0.09	−12.07	+ 3 12.28	−1 19.45	124 4 57.20	- -	22 31 40.04	−14 49 23.55	− 8.62	−48.30		
16												
17												
18	− 0.02	−12.07	+ 2 40.96	−1 19.48	124 4 25.85	- -	22 31 42.90	−14 49 54.90	− 8.62	−48.32		
19												
20												
21	0.00	−12.07	+ 2 34.71	−1 9.97	127 40 28.49	- -	22 58 11.82	−11 13 52.26	− 8.57	−51.47		
22												
23												
24	− 0.02	−12.08	− 1 4.66	−1 34.33	119 33 23.53	- -	23 13 11.42	−19 20 57.22	− 8.73	−50.36		
25												
26												
27	+ 0.16	−12.08	+ 2 43.57	− 39.66	143 44 6.91	- -	23 32 22.79	+ 4 49 46.16	− 8.55	−55.46		
28												
29												
30												
31												
32	+ 4.74	−12.11	- - -	- - -	- - -	- -	0 32 11.73	- - - -	−10.26	- -		
33												
34												
35												
36	- - -	- - -	- - -	- - -	- - - -	40.609	- - - -	- - - -	-	- -		
37												
38												
39	- - -	- - -	- - -	- -	- - - -	40.625	- -	- - - -	- -	- -	J. M.	
40												
41												
42												
43	+ 0.89	−18.83	+ 45.66	+ 13.05	189 40 1.51	- -	17 53 8.32	+51 30 40.76	− 1.84	−11.71		
44												
45												
46	+ 57.60	−18.82	+ 3 57.48	−1 14.56	125 11 43.42	- -	20 9 27.57	−12 57 37.33	− 7.91	−27.99		

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	6 50	10.30	12.82	15.51	18.96										
	2		B.	36.60	39.51	41.74	43.90	46.47										
Nov. 8	3	α^2 Capricorni	C.	5.90	8.00	10.30	12.52	14.55	20 10 10.38	54.0	63.8	63.7	62.5	125 9 1.00	VI. 37.658	- -	- -	47.2
	4		D.	33.82	36.52	38.94	41.58	43.90										
	5		E.	1.93	4.51	8.27	11.88	14.67										
	6		A.	14.31	19.50	23.00	26.39	31.10										
	7		B.	55.63	59.36	2.21	5.62	9.18										
	8	α Cygni	C.	34 69	37.92	40.81	43.96	46.90	20 36 41.72	53.4	64.0	66.8	64.5	182 54 2.18	VI. 39.184	30.070	54.0	46.1
	9		D.	14.22	17.60	21.18	24.81	27.70		52.4	63.9	65.8	63.7	1.45				
	10		E.	52.79	56.26	1.39	6.36	10.20										
	11		B.	53.86	57.25	0.08	2.69	5.93										
	12	61^1 Cygni	C.	29.96	32.78	35.13	38.32	40.77	21 0 53.40	52.8	65.4	64.4	61.7	176 9 1.08	VI. 36.632	30.000	53.0	44.7
	13		D.	4.94	7.89	11.06	14.51	17.52										
	14		E.	39.44	42.44	47.03	51.57	54.82										
	15	61^2 Cygni	B.	55.30	58.80	1.69	4.39	7.54	21 0 1.54	- -	-	- -	- -	- - - - -	- - -	- - -	-	- -
	16		B.	19.80	23.03	25.54	27.92	30.87										
	17	ζ Cygni	C.	52.71	55.34	57.57	0.26	2.84										
	18		D.	24.24	26.73	29.80	32.60	35.13	21 7 13.84	51.0	61.4	63.7	63.2	167 47 59.82	VI. 41.937	- -	- -	- -
	19		E.	55.38	58.50	2.45	6.20	9.97										
	20		A.	42.35	47.92	51.30	54.98	59.80										
	21		B.	25.84	29.81	33.03	36.39	39.97										
	22	α Gruis	C.	8.19	11.32	14.80	18.00	20.79	21 59 14.64	- -	- -	- -	- -	- - - - -	- - - - -	-	-	- -
	23		D.	48.81	52.11	55.99	59.90	2.80										
	24		E.	29.39	32.83	38.19	43.89	47.68										
	25		A.	31.00	49.00	32.00	12.00	20.00										
	26		B.	42.50	29.50	53.50	17.50	53.00										
	27	Polaris	C.	14.00	33.00	58.00	15.50	47.50	1 5 1.76	56.9	70.2	72.0	67.0	226 39 6.52	VI. 39.496	30.066	45.8	36.5
	28		D.	59.00	31.00	10.00	50.00	11.50		57.5	70.7	73.2	67.9	7.32				
	29		E.	42.00	19.50	39.00	4.00	50.00										
	30	Nadir	- -	- - -	- - -	- - -	- - -	- - -	- - - -	54.5	64.2	67.7	69.4	357 3 3.45	VI. 40.655	-	- -	-
	31									54.7	64.3	67.6	69.7	4.08				
	32									54.2	62.9	65.0	67.5	357 3 2.40				
9	33	Nadir	- -	-	- - -	- - -	- - -	-	- - -	54.1	62.4	65.2	67.7	2.35	VI. 40.633	- -	-	-
	34									54.0	62.8	65.1	67.8	2.42				
	35		A.	13.00	17.00	19.48	22.45	25.88										
	36		B.	44.98	47.78	50.00	52.30	55.07										
	37	B. A. C. 8160	C.	15.69	17.86	20.63	22.56	25.62	0 18 20.45	52.2	65.5	67.4	68.2	160 45 3.32	VI. 39.925	30.069	49.1	43.9
	38		D.	45.47	48.00	50.55	53.62	55.90										
	39		E.	15.28	17.60	21.26	25.08	28.20										
	40		A.	54.70	58.95	2.00	4.51	8.00										
	41		B.	28.18	31.26	33.84	36.15	39.00										
	42	α Andromedæ	C.	0.51	3.00	5.50	7.69	10.21	0 1 5.48	54.3	64.6	68.9	68.6	166 27 4.10	VI. 41.915	30.084	48.2	42.0
	43		D.	31.55	34.30	37.20	40.48	42.60										
	44		E.	2.50	5.53	9.32	13.49	16.57										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Nov. 8 21	− 0 18.81	+ 0.006	+ 0.045	+ 0.579	+ 0.070
9 0	− 0 18.65	+ 0.010	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	− 0.01	− 18.82	+1 41.78	−1 14.69	125 9 28.09	- -	20 9 51.55	−12 59 52.66	− 7.92	−28.07	J. M.	
4												
5												
6												
7												
8	+ 0.71	− 18.81	+ 49.43	+ 6.05	182 54 57.29	40.625	20 36 23.62	+44 45 36.54	− 4.76	−49.10		8. Unsteady.
9												
10												
11												
12												
13	− 17.23	− 18.81	+2 16.98	− 0.89	176 11 17.17	- -	21 0 17.36	+38 1 56.42	− 6.66	−61.03		
14												
15	+ 36.16	− 18.81	- -	- - -	- - - -	- -	21 0 18.89	- - -	− 6.66	- -		
16												
17												
18	− 15.69	− 18.81	− 45.01	− 9.60	167 47 5.21	- -	21 6 39.34	+29 37 44.46	− 6.27	−50.72		
19												
20												
21												
22	− 0.49	− 18.80	- - -	- - -	- - - -	- -	21 58 55.35	- -	− 9.86	-		
23												
24												
25												
26												
27	+ 25.26	+ 64.12	+ 35.99	+1 10.46	226 40 53.37	- -	1 6 31.14	+88 31 32.62	−86.90	−58.58		27. Unsteady.
28												
29												
30												
31	- - -	- - -	- - -	- -	- - - -	40.545	- - - -	- - -	- -	- -		
32												
33	- - -	- - -	- - -	- - -	- - - -	40.563	- - -	- - - -	-	- -	D. M.	
34												
35												
36												
37	+ 0.36	− 18.66	+ 21.89	− 17.29	160 45 7.92	- -	23 18 2.15	+22 35 47.17	− 8.12	−60.90		
38												
39												
40												
41												
42	+ 0 43	− 18.65	− 46.38	− 11.13	166 26 6.59	- -	0 0 47.26	+28 16 45.84	− 8.64	−61.41		
43												
44												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	38.88	44.13	49.73	54.30	59.48										
	2		B.	30.60	35.10	39.30	43.32	47.68										
Nov. 9	3	α Cassiopeæ	C.	21.00	25.32	29.00	32.42	36.37	0 32 29.16	54.0	62.4	70.5	63.7	193 54 2.65	VI. 42.574	30.085	48.1	42.3
	4		D.	10.00	13.93	18.66	23.55	27.36										
	5		E.	59.00	5.83	9.05	14.60	20.42										
	6	Polaris	- -	9.00	32.00	59.00	15.00	37.00	1 4 54.40	53.6	64.3	69.0	65.2	226 39 3.02	VI. 39.354	30.080	47.3	40.4
	7		A.	0.00	48.00	8.50	27.50	7.00										
	8		B.	39.50	0.00	42.50	21.50	49.50										
	9	Polaris, S. P.	C.	6.00	29.50	52.00	14.50	38.00	13 5 0.58	59.9	61.7	69.4	61.3	229 36 3.08	VI. 39.771	30.229	47.4	43.8
	10		D.	57.50	36.00	59.00	19.50	8.00		59.9	62.5	69.5	61.7	3.40				
	11		E.	30.00	39.50	22.00	1.00	18.00										
	12		A.	6.64	10.25	12.98	15.92	19.34										
	13		B.	38.00	40.73	43.00	45.22	48.00		58.8	61.4	62.8	63.4	158 6 1.60				
	14	α Bootis	C.	8.20	10.59	12.80	14.98	17.30	14 9 12.42	58.8	61.6	63.1	63.5	1.75	VI. 38.945	30.237	47.0	45.1
	15		D.	37.03	39.85	42.51	45.35	47.50		59.9	61.8	63.0	63.0	1.92				
	16		E.	6.19	8.92	12.82	16.65	19.52										
	17	Nadir	- -	- - -	-	- -	- -	- -	- - -	63.8	65.5	66.8	69.0	357 3 6.27	VI. 40.629	- -	- -	- -
	18		A.	33.00	37.04	39.76	42.70	46.44										
	19		B.	5.99	9.10	11.47	13.92	16.67										
	20	α Coronæ Borealis	C.	37.96	40.34	42.79	45.12	47.59	15 28 42.94	64.4	67.4	69.5	69.0	165 21 7.59	- - - -	30.218	49.5	46.4
	21		D.	8.96	11.55	14.42	17.25	19.66		65.2	66.5	68.5	69.3	165 21 7.38				
	22		E.	39.44	42.24	46.30	50.44	53.45										
	23		B.	33.00	59.00	42.00	12.00	43.00										
10	24	Polaris, S. P.	C.	0.00	29.00	45.00	9.00	31.00	13 5 45.87	59.2	58.3	66.4	60.2	229 36 1.02	VI. 39.792	30.302	47.1	43.0
	25		D.	50.00	26.00	56.00	12.00	1.00		59.0	57.9	66.3	60.9	1.02				
	26		A.	50.59	54.28	56.81	59.65	3.09										
	27		B.	21.53	24.46	26.69	29.01	31.69										
	28	η Bootis	C.	51.80	54.10	56.06	58.30	0.80	13 47 56.32	59.0	62.2	65.3	63.8	157 18 2.57	VI. 40.448	30.292	47.1	45.2
	29		D.	20.82	23.24	25.90	28.38	30.80										
	30		E.	49.54	52.18	55.84	59.73	2.70										
	31		A.	6.49	10.16	13.00	15.71	19.24										
	32		B.	37.72	40.60	42.75	45.16	47.69										
	33	α Bootis	C.	8.19	10.54	12.60	14.77	17.14	14 9 6.97	59.6	60.9	63.4	62.9	158 6 1.70	VI. 39.027	30.284	48.1	46.9
	34		D.	37.10	39.64	42.30	44.89	47.32										
	35		E.	6.00	8.76	12.45	- -	- -										
	36		B.	17.20	27.20	35.00	43.21	52.98										
	37	β Ursæ Minoris	C.	5.49	13.27	21.76	29.40	37.76	14 51 21.51	- -	- -	- -	- -	- - -	VII. 40.355	30.274	49.8	50.0
	38		D.	49.28	58.20	8.00	17.73	26.17										
	39		A.	12.61	16.28	18.92	21.71	25.03										
	40		B.	43.46	46.33	48.51	50.86	53.54										
	41	Sun, I.	C.	13.45	15.65	17.81	20.07	22.34	15 3 17.93	- -	- -	- -	- -	- -	- - - -	- -	-	-
	42		D.	41.99	44.50	47.34	49.93	52.12										
	43		E.	10.62	13.55	16.93	20.84	23.80										
	44		B.	59.29	2.40	4.33	6.58	9.00										
	45	Sun, II.	C.	29.35	31.62	33.82	36.06	38.50	15 5 48.62	64.5	65.9	63.8	64.3	120 48 4.62	II. 34.215	30.228	49.0	46.5
	46		D.	58.23	0.64	3.50	6.00	8.30		64.7	65.0	63.5	64.4	4.40	X. 39.795			
	47		E.	26.88	29.68	33.10	36.00	39.07										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Nov. 9 15	− 0 18.40	+ 0.010	+ 0.045	+ 0.579	+ 0.070
10 18	− 0 18.31	+ 0.008	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 1.02	−18.64	− 1 8.99	+ 17.96	193 53 11.62	40.563	0 32 11.54	+55 43 50.87	−10.08	−63.32	D. M.	
4												
5												
6	+27.78	+65.19	+ 41.47	+ 1 9.93	226 40 54.42	- -	1 6 27.37	+88 31 33.67	−86.58	−59.03	J. M.	6. Star blurred.
7												
8												
9	−25.17	+66.00	+ 23.16	+ 1 17.53	229 37 43.93	40.446	13 6 40.83	+88 31 36.82	−86.40	−58.71		
10												
11												
12												
13												
14	+ 0.33	−18.41	+ 51.49	− 20.35	158 6 32.93	- -	14 8 54.34	+19 57 12.18	− 5.46	+44.92		
15												
16												
17	- - -	- - -	- - -	- - -	- - - -	40.446	- - -	- - - -	- -	- -		
18												
19												
20	+ 0.42	−18.40	- - -	- -	- - - -	- -	15 28 24.96	- - - -	− 4.85	- -		
21												
22												
23												
24	−27.76	+67.26	+ 24.25	+ 1 17.83	229 37 43.10	40.499	13 6 25.37	+88 31 37.65	−86.06	−59.73	D. M.	
25												
26												
27												
28	+ 0.32	−18.34	+ 1.75	− 21.34	157 17 42.98	- -	13 47 38.30	+19 8 22.23	− 5.87	+43.26		
29												
30												
31												
32												
33	+ 6.00	−18.34	+ 50.50	− 20.30	158 6 31.90	-	14 8 54.63	+19 57 11.15	− 5.48	+45.19		33. Through clouds.
34												
35												
36												
37	+ 2.68	−18.33	- -	- - -	- - - -	-	14 51 5.86	- - - -	+ 5.57	- -		
38												
39												
40												
41	− 0.07	−18.33	-	- - -	- - - -		- - - -	- - - -	- -	- -	J. M.	
42												
43												
44												
45	−14.81	−18.33	+18 10.61	− 1 20.14	121 4 55.09	- -	15 4 7.50	−17 20 37.89	- -	- -	D. M.	
46			−14 11.91	− 1 21.86	120 32 30.63							
47												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	44.00	46.81	48.88	51.06	53.64										
	2		C.	12.65	14.72	17.00	19.00	21.30										
Nov. 10	3	α Serpentis	D.	40.27	42.63	45.30	47.72	50.00	15 37 31.23	- -	-	- -	-	- - - -	- - - -	- -	- -	- -
	4		E.	7.67	10.22	13.84	17.52	20.28										
	5									64.4	64.9	62.4	64.2	115 54 3.98	VI. 37.450	30.214	49.4	64.4
	6	Mercury N. S.	- -	- - - -	- - -	- - -	- - -	- - -	- - - -	63.9	64.5	63.2	64.4	4.00	VI. 37.460			
	7		A.	29.80	33.60	36.60	39.47	43.21										
	8		B.	2.70	5.29	7.88	10.44	13.26										
	9	α Scorpii	C.	34.47	36.80	39.22	41.50	43.82	16 20 39.23	6.0	6.8	4.4	4.4	112 6 5.40	VI. 41.482	30.218	49.5	46.9
	10		D.	4.92	7.62	10.42	13.23	15.63										
	11		E.	35.28	38.09	41.98	46.02	49.03										
	12		A.	18.60	22.00	24.86	27.24	30.82										
	13		B.	48.55	51.50	53.54	55.79	58.42		65.9	67.0	69.8	70.4	150 51 8.28				
	14	α Ophiuchi	C.	17.90	20.03	22.24	24.50	26.59	17 28 22.31	66.0	67.7	69.5	78.7	10.48	VI. 42.047	30.226	50.4	47.8
	15		D.	46.00	48.40	50.91	53.62	55.78		65.6	67.8	69.6	69.4	8.10				
	16		E.	13.76	16.38	20.00	23.83	26.54										
	17		A.	46.79	52.00	56.24	0.46	5.56										
	18		B.	33.82	37.92	41.52	45.00	48.95										
	19	γ Draconis	C.	19.64	23.00	26.53	29.77	33.24	17 53 26.54	3.4	5.3	7.8	0.8	189 39 4.32		30.212	51.0	47.6
	20		D.	3.66	7.37	11.44	15.52	18.91		2.2	4.4	7.6	0.4	3.65	- - - -			
	21		E.	47.40	51.53	57.10	2.95	7.24										
	22		A.	53.53	58.00	1.26	4.68	8.72										
	23		B.	31.07	34.60	37.31	40.17	43.31										
	24	α Lyræ	C.	7.65	10.37	13.14	15.74	18.54	18 32 13.18	57.8	61.8	63.3	60.8	176 48 0.92	VI. 39.630	30.218	50.5	47.4
	25		D.	42.57	45.62	48.78	52.24	55.00										
	26		E.	17.73	20.84	25.30	30.00	33.38										
	27	α^1 Capricorni	A.	42.23	45.63	48.33	51.00	54.28	20 8 48.29	- -	-	- -	- -	- - - -	- - - -	- -	- -	- -
	28		A.	6.03	9.57	12.28	14.86	18.36										
	29		B.	36.03	39.00	41.15	43.28	46.00										
	30	α^2 Capricorni	C.	5.49	7.52	9.88	11.88	14.20	20 10 9.88	56.9	56.9	56.3	57.4	125 8 56.87	VI. 37.480	30.226	51.0	45.6
	31		D.	33.70	35.90	38.55	41.02	43.35		57.5	58.3	57.5	57.5	57.70				
	32		E.	1.55	4.06	7.78	11.39	14.15										
	33									58.4	59.8	63.1	64.2	357 3 1.38				
	34	Nadir	- -	- - -	- -	- - -	- - -	- - -	- - - -	58.6	60.0	63.0	64.0	1.40	VI. 40.542	-	-	- -
	35									58.5	60.3	63.0	64.8	1.65				
	36		A.	7.94	13.98	20.39	26.03	33.02										
	37		B.	10.54	16.30	20.80	24.84	30.07										
	38	α Cephei	C.	10.20	15.25	19.85	24.82	28.98	21 15 20.11	56.7	57.9	63.0	67.4	200 9 1.22	VI. 44.045	30.236	50.0	40.8
	39		D.	9.02	14.52	19.80	25.04	29.60										
	40		E.	7.12	12.88	20.34	27.80	33.73										
	41		C.	47.84	53.72	0.62	6.39	12.47										
	42	β Cephei	D.	7.59	14.78	21.70	29.46	35.84	21 28 22.27	56.4	58.8	65.8	58.4	208 5 59.85	VI. 44.195	30.236	50.0	40.4
	43		E.	26.88	34.00	44.71	54.90	3.12										
	44		A.	41.32	46.82	50.70	54.52	59.51										
	45		B.	25.11	29.14	32.63	35.58	39.48										
	46	α Gruis	C.	7.35	10.63	13.48	16.76	19.92	21 59 14.02	54.2	50.2	57.0	54.2	90 41 53.90	VI. 40.420	30.234	49.2	39.4
	47		D.	48.46	52.00	55.80	59.50	2.77		53.8	50.2	57.7	53.5	53.80				
	48		E.	28.74	32.38	37.74	43.04	47.15										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Nov. 10 18	− 0 18.31	+ 0.008	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	m. s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	— 13 95	— 18.33	- - -	- - - -	- - - - -	-	15 36 58.95		— 6.04	- -	D. M.	
4												
5			+1 44.60	— 1 37.62	115 54 10.97							
6	- - - - -		+1 44.25	— 1 37.62	115 54 10.62	- -	- - - -	—22 15 9.96	- -	- -		
7												
8												
9	— 0.16	— 18.32	— 33.72	— 2 5.75	112 3 25.93	-	16 20 20.75	—26 5 54.82	— 7.72	+18.26	J. M.	
10												
11												
12												
13												
14	+ 0.24	— 18.31	— 53.10	— 29.04	150 49 46.81	-	17 28 4.24	+12 40 26.06	— 5.78	— 0.09		
15												
16												
17												
18												
19	+ 0.88	— 18.31	- - -	- - - -	- - - - -	- -	17 53 9.11	- - - -	— 1.80	- -		
20												
21												
22												
23												
24	+ 0.60	— 18.30	+ 29.81	— 0.26	176 48 30.47	- -	18 31 55.48	+38 39 9.72	— 3.92	—21.01		
25												
26												
27	+ 57.60	— 18.29	- - -	- - - -	- - - - -	- -	20 9 27.60	- - - -	— 7.88	- -		
28												
29												
30	— 0.01	— 18.29	+1 43.56	— 1 15.34	125 9 25.45	- -	20 9 51.58	—12 59 55.30	— 7.89	—27.99		
31												
32												
33												
34	- - - - - -		- - - -	- - - -	- - - - -	40.499	- - - -	- - - - -	- -	- -		
35												
36												
37												
38	+ 1.28	— 18.28	—2 1.64	+ 25.47	200 7 25.07	- -	21 15 3.11	+61 58 4.32	— 3.48	—57.43		
39												
40												
41												
42	—1 19.88	— 18 28	—2 6.79	+ 35.99	208 4 29.05	- -	21 26 44.11	+69 55 8.30	— 1.16	—59.47		
43												
44												
45												
46	— 0.49	— 18.28	+ 2.47	—12 58.34	90 28 57.98	- -	21 58 55.25	—47 40 22.77	— 9.81	—31.93		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		A.	23.00	46.00	27.00	13.00	19.00										
	2		B.	45.00	30.00	50.00	14.00	53.00										
Nov. 10	3	Polaris	C.	10.00	33.00	57.00	18.50	42.00	1 4 57.62	59.5	64.8	69.0	63.5	226 39 4.20	VI. 40.437	30.238	41.7	34.5
	4		D.	55.50	25.50	4.00	42.00	8.00		61.8	65.0	69.8	63.3	4.98				
	5		E.	34.50	14.00	35.00	56.50	45.00										
	6		A.	3.62	7.77	10.43	13.14	16.87										
	7		B.	35.60	38.50	40.94	43.00	45.81										
	8	α Arietis	C.	6.62	8.71	11.17	13.26	15.71	1 59 11.20	3.0	7.7	7.9	8.0	160 51 6.65	V. 37.770	30.250	41.0	33.0
	9		D.	36.30	38.89	41.43	44.26	46.57										
	10		E.	5.66	8.32	12.46	16.16	18.71										
	11		A.	16.48	20.20	22.57	25.40	28.85										
	12		B.	47.16	49.89	52.11	54.38	57.00										
11	13	Sun, I.	C.	16.84	19.38	21.55	23.61	25.86	15 7 21.59	57.8	58.7	60.0	60.8	120 32 59.32	II. 37.584	30.267	50.0	50.2
	14		D.	45.76	48.16	50.94	53.50	55.94		57.9	58.1	59.4	60.4	58.95	X. 42.612			
	15		E.	14.50	17.34	20.74	24.32	27.28										
	16		A.	32.09	35.90	38.50	41.29	44.89										
	17		B.	4.98	6.19	8.24	10.56	13.24										
	18	Sun, II.	C.	34.00	35.43	37.53	39.72	42.12	15 9 37.77	- -	- -	- -	-	- - - -	- - - -	-	- -	- -
	19		D.	2.12	4.44	7.00	9.62	12.03										
	20		E.	30.60	33.24	36.82	40.30	43.44										
	21		A.	13.39	18.38	21.80	25.34	30.00										
	22		B.	54.73	58.65	1.46	4.49	7.95										
12	23	α Cygni	C.	34.68	37.80	40.91	43.57	46.71	20 36 40.87	- -	- -	- -	- -	- - - -	- - - -		- -	- -
	24		D.	13.34	16.61	20.21	23.93	26.73										
	25		E.	51.49	55.19	0.10	5.19	9.05										
	26									59.2	59.0	61.1	63.9	357 3 0.80				
	27									58.7	58.6	61.4	63.4	3 0.52				
	28	Nadir	- -	- -	- -	- -	- -	- -	- -	58.0	57.8	60.8	63.1	2 59.92	VI. 40.509	-	- -	- -
	29									57.8	57.8	60.0	63.0	3 59.65				
	30		A.	7.25	14.40	20.08	25.72	32.72										
	31		B.	9.35	15.53	19.82	24.57	29.95										
	32	α Cephei	C.	10.12	14.44	19.27	23.80	28.55	21 15 19.53	57.5	59.3	63.7	57.4	200 5 59.48	VI. 38.880	29.900	56.0	49.3
	33		D.	8.61	13.41	18.98	23.94	29.00										
	34		E.	6.54	11.90	19.91	27.34	33.15										
	35		A.	58.84	9.00	16.30	23.86	34.00										
	36		B.	24.86	32.34	38.55	44.45	52.40										
	37	β Cephei	C.	47.23	53.31	59.50	5.94	12.00	21 26 60.07	9.5	10.2	15.5	10.4	208 3 11.40	VI. 39.267	29.900	55.3	48.7
	38		D.	7.36	14.19	21.52	29.00	35.79										
	39		E.	26.42	33.78	44.60	54.53	2.44										
	40		B.	40.97	43.10	45.88	48.00	50.51										
	41		C.	9.82	11.95	14.10	16.14	18.38										
	42	ε Pegasi	D.	37.54	39.91	42.47	45.12	47.29	21 37 28.38	31.3	32.6	32.1	33.8	147 21 32.45	VI. 39.502	29.901	55.1	48.7
	43		E.	5.00	7.79	11.20	14.82	17.64										
	44		A.	41.16	46.75	50.61	54.69	59.02										
	45		B.	24.88	29.08	32.25	35.51	39.18										
	46	α Gruis	C.	7.41	10.69	13.91	16.61	19.42	21 59 13.82	63.8	59.3	65.8	63.6	90 42 3.12	VI. 41.752	29.922	54.5	47.8
	47		D.	48.19	51.61	55.40	59.14	2.47		63.8	60.1	66.0	64.7	3.65				
	48		E.	28.35	32.10	37.43	43.00	46.67										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Nov. 10 18	− 0 18.31	+ 0.008	+ 0.045	+ 0.579	+ 0.070
11 15	− 0 18.14	+ 0 008	+ 0.045	+ 0.579	+ 0.070
12 22	− 0 17.89	+ 0.008	+ 0.045	+ 0.579	+ 0.070

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+25.26	+66.77	+ 36.43	+ 1 11.17	226 40 52.19	- -	1 6 26.65	+88 31 31.44	−86.31	−59.38	J M.	
4												
5												
6												
7												
8	+ 0.36	−18.25	+ 4 27.02	− 17.61	160 55 16.06	- -	1 58 53.31	+22 45 55.31	− 9.71	−50.71		
9												
10												
11												
12												
13	− 0.06	−18.14	+16 15.17	−17 31.89	120 31 42.60	-	- - -	−17 37 38.15	- -	-		13. Steady.
14			−15 48.41	+14 49.16	120 31 59.70			−17 37 21.05				
15												
16												
17												
18	− 0.06	−18.14	- - -	- - - -	- - -	-	15 8 11.48	- - - -				
19												
20												
21												
22												
23	+ 0.71	−17.90	- - -	- - -	- - - - -	-	20 36 23.68	- - - -	− 4.66	- -		
24												
25												
26												
27												
28	-	- - -	- - - -	- -	- - - - -	40.503	- - - -	- - - -	- -	-		
29												
30												
31												
32	+ 1.28	−17.89	+ 55.68	+ 24.76	200 7 19.92	- -	21 15 2.92	+61 57 59.17	− 3.40	−57.45		
33												
34												
35												
36												
37	+ 1.83	−17.89	+ 42.40	+ 34.99	208 4 28.79	- -	21 26 44.01	+69 55 8.04	− 1.93	−59.55		
38												
39												
40												
41	−14.01	−17.89	+ 34.34	− 33.18	147 21 33.61	- -	21 36 56.48	+ 9 12 12.86	− 7.40	−48.97		
42												
43												
44												
45												
46	− 0.49	−17.89	− 42.85	−12 36.03	90 28 44.50	- -	21 58 55.44	−47 40 36.25	− 9.76	−31.78		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h m. s.	″	″	′	″	° ′ ″	r.	in.	°	°
	1		A.	37.98	41.50	43.71	46.58	50.08										
	2		B.	7.40	10.11	12.09	14.35	16.85										
Nov. 12	3	ι Piscium	C.	36.09	38.10	40.11	42.33	44.50	23 32 40.31	1.9	2.7	4.3	5.0	142 57 3.48	V. 40.879	29.954	51.8	44.2
	4		D.	3.47	6.00	8.50	11.06	13.12		2.0	2.4	4.0	5.4	3.45				
	5		E.	30.75	33.28	36.68	40.23	42.96										
	6		B.	23.16	26.07	28.28	30.49	33.00										
	7		C.	52.58	54.80	57.11	59.19	1.27										
	8	γ Pegasi	D.	21.00	23.35	25.99	28.66	30.85	0 6 11.63	- -	- -	-	- -	- -	- - - -	- -	- -	- -
	9		E.	49.21	51.60	55.30	58.85	1.89										
	10		A.	25.00	40.00	20.00	3.00	6.00										
	11		B.	32.00	19.00	40.00	3.00	44.00		1.7	2.2	7.0	3.8	226 39 3.68				
	12	Polaris	C.	6.00	28.00	51.00	12.00	33.00	1 4 50.02	2.0	2.4	7.7	3.3	5.13	VI. 39.317	29.973	48.7	40.3
	13		D.	48.00	23.00	1.50	42.00	3.50		1.7	3.0	7.4	3.0	5.03				
	14		E.	36.00	11.00	31.00	53.50	39.00										
	15	Anonymous	C.	29.44	34.26	39.00	43.60	48.09	2 13 38.88	57.5	57.7	62.7	56.4	199 59 58.57	III. 38.270	29.936	46.2	38.8
	16	Anonymous	C.	21.26	26.00	30.31	34.78	38.96	2 14 30.26	58.4	59.0	65.0	57.2	59.90	III. 38.620	29.930	45.8	38.7
	17									56.8	57.7	59.5	61.0					
	18	Nadir	- -	- -	- -	- -	- -	- -	- - -	57.4	57.9	61.1	62.3	357 2 58.75	VI. 40.584	- -	- -	- -
	19		A.	49.57	54.32	57.08	0.75	4.78										
	20		B.	26.83	30.52	33.08	35.80	39.28										
27	21	α Lyræ	C.	3.27	6.27	9.04	11.86	14.72	18 32 9.18	- -	- -	- -	- -	- - - -	- - - -	- -	- -	-
	22		D.	38.76	41.60	44.90	48.40	50.99										
	23		E.	13.61	16.92	21.70	25.87	29.49										
	24		A.	59.17	2.75	5.25	7.75	11.22										
	25		B.	28.70	31.47	33.37	35.72	38.32										
	26	β Aquarii	C.	57.50	59.42	1.38	3.45	5.78	21 24 1.71	- -	- -	-	- -	- - - -	- - - -	-	- -	- -
	27		D.	24.75	27.14	29.77	32.29	34.71										
	28		E.	52.43	54.90	58.57	2.11	4.76										
	29		A.	7.25	11.40	13.80	16.40	19.74										
	30		B.	37.20	40.11	42.24	44.52	47.02										
	31	ε Pegasi	C.	6.25	8.49	10.50	12.94	14.97	21 37 10.67	- -	- -	-	- -	- - -	- - - -	- -	- -	- -
	32		D.	33.98	36.13	38.94	41.50	43.78										
	33		E.	1.67	4.30	7.95	11.45	14.22										
	34		A.	4.04	7.95	10.45	13.04	16.47										
	35		B.	34.30	37.17	39.12	41.48	44.17										
	36	Anonymous	C.	3.52	6.02	8.09	10.32	12.40	21 39 8.08	57.0	58.8	59.7	59.0	124 56 58.62	IV. 40.615	29.982	50.0	36.4
	37		D.	31.58	34.09	36.72	39.43	41.62		56.5	59.1	60.2	58.4	58.55				
	38		E.	59.20	2.39	6.00	9.74	12.48										
	39		A.	32.45	36.74	39.80	42.50	46.30										
	40		B.	6.48	9.88	12.11	14.58	17.52										
	41	α Piscis Australis	C.	39.63	42.35	44.86	47.18	49.34	22 49 44.69	- -	- -	-	- -	- - - -	- - - -	-	- -	- -
	42		D.	11.40	14.12	17.27	20.06	22.54										
	43		E.	42.94	45.88	49.99	54.20	57.25										
	44		A.	35.38	38.99	41.40	44.19	47.53										
	45		B.	5.86	8.57	10.81	12.96	15.57										
	46	α Pegasi	C.	34.84	37.45	39.40	41.51	43.95	22 57 39.61	- -	- -	- -	- -	- - -	- - -	- -	- -	- -
	47		D.	3.40	5.92	8.52	11.09	13.28										
	48		E.	31.58	34.27	37.86	41.59	44.44										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h	m. s.	s.	s.	s.	s.
Nov. 12 22	− 0 17.89	+ 0.008	+ 0.045	+ 0.579	+ 0.070
27 21	− 0 14.31	+ 0.009	− 0.211	+ 0.639	+ 0.021

1 rev. of mic. = 34″.000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	+ 0.16	− 17.88	+ 2 40.50	− 39.80	142 59 4.17	- -	23 32 22.59	+ 4 49 43.42	− 8.38	−55.08	D. M.	
4												
5												
6												
7												
8	− 14.22	− 17.87	- - -	- - -	- - -	- -	0 5 39.54	- - -	− 8.54	- -		
9												
10												
11												
12	+ 25.26	+ 69.64	+ 40.69	+1 9.68	226 40 54.98	-	1 6 24.92	+88 31 34.23	−85.80	−59.98		
13												
14												
15	+ 1.42	− 17.86	+13 4.95	+ 25.50	200 13 29.02	- -	2 13 22.44	+62 4 8.27	−13.80	−50.05	J. M.	
16	+ 1.42	− 17.86	+12 52.95	+ 25.49	200 13 18.34	- -	2 14 13.82	+62 3 57.59	−13.82	−49.97		
17												
18	- - -	- -	- -	-	- - - -	40.620	- - -	- - -	- -	- -		
19												
20												
21	+ 0.33	− 14.34	- - -	- -	- - - -	- -	18 31 55.17	- - - -	− 3.69	- -		
22												
23												
24												
25												
26	− 0.25	− 14.31	- - -	- - -	- - - -	- -	21 23 47.15	- - - -	− 7.68	- -		
27												
28												
29												
30												
31	− 0.08	− 14.30	- - -	- - -	- - - -	- -	21 36 56.29	- - - -	− 7.21	- -		
32												
33												
34												
35												
36	− 0.32	− 14.30	+ 8 48.82	−1 16.34	125 4 31.06	- -	21 38 53.46	−13 4 49.69	− 7.96	−40.60		
37												
38												
39												
40												
41	− 0.57	− 14.29	- - -	- - -	- - - -	- -	22 49 29.83	- - - -	− 8.61	- -		
42												
43												
44												
45												
46	− 0.03	− 14.29	- - -	- - -	- - - -	- -	22 57 25.29	- - - -	− 7.76	- -		
47												
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
Dec. 1	1	Sun, S. N.		- -	- -	- -	- -	- -	- - -	58.7	58.7	58.0	60.4	116 14 58.95	X. 42.780	30.424	49.1	47.8
	2									59.4	60.2	59.1	59.7	59.60	II. 37.174			
	3		A.	34.41	40.28	44.27	48.59	54.00										
	4		B.	22.74	27.17	30.48	34.00	38.20										
	5	β Draconis	C.	9.42	12.88	16.30	19.88	23.19	17 27 16.48	59.4	59.4	63.0	58.3	190 33 0.02	VI. 39.040	30.402	50.5	50.0
	6		D.	54.45	58.11	2.10	6.53	9.94		59.6	60.1	63.6	59.3	0.65				
	7		E.	39.10	42.99	48.82	54.79	59.32										
	8									61.5	63.5	65.0	66.2	357 3 4.05				
	9	Nadir		- -	- -	- -	- -	- -	- - -	62.5	64.0	66.1	68.0	5.15	VI. 40.785	30.402	51.5	51.0
	10									63.5	64.0	66.1	67.1	5.18				
	11		A.	52.06	55.39	58.20	0.78	3.98										
	12		B.	21.58	24.13	26.17	28.42	31.02										
	13	γ Ceti	C.	49.78	52.08	54.00	56.18	58.42	2 35 54.27	4.0	4.1	6.8	9.1	140 45 6.00	VI. 37.480	30.364	41.0	32.8
	14		D.	17.41	19.66	22.20	24.72	26.98										
	15		E.	44.55	46.92	50.66	54.31	57.20										
	16		A.	47.24	50.62	53.14	55.62	58.85										
	17		B.	16.42	19.14	21.30	23.49	25.82										
	18	α Ceti	C.	45.89	47.03	49.30	51.22	53.40	2 54 49.32	4.7	6.5	6.3	9.3	141 39 6.70	VI. 37.870	30.366	41.1	32.7
	19		D.	12.46	14.64	17.46	20.00	22.10		3.9	6.5	6.6	8.3	6.32				
	20		E.	39.24	41.94	45.55	49.06	52.03										
	21		A.	28.95	34.12	37.68	42.13	47.03										
	22		B.	13.83	18.12	21.16	24.56	28.28										
	23	α Persei	C.	57.80	0.80	4.23	7.51	10.50	3 14 3.94	1.0	4.3	9.5	4.0	187 27 4.70	V. 36.575	30.367	41.0	32.6
	24		D.	38.98	42.67	46.22	50.29	53.63										
	25		E.	20.31	24.05	29.95	35.68	39.94										
	26		A.	50.71	54.31	57.18	59.86	3.67										
	27		B.	22.52	25.62	28.19	30.31	32.98										
	28	η Tauri	C.	53.74	56.15	58.25	0.66	3.22	3 38 58.32	59.7	63.5	65.7	67.4	161 48 4.08	VI. 39.835	30.368	40.8	31.8
	29		D.	22.94	25.69	28.42	31.18	33.79		60.2	63.6	65.9	67.0	4.18				
	30		E.	52.94	55.72	59.32	3.66	7.03										
	31		B.	50.52	53.29	55.67	57.58	0.16										
	32	γ^1 Eridani	C.	19.54	21.80	23.98	26.32	28.62	3 51 24.12	0.0	1.5	1.0	2.0	124 12 1.12	V. 40.628	- - - -	- -	
	33		D.	47.70	50.24	53.02	55.49	57.87										
	34									60.0	60.1	64.3	65.8	357 3 2.55				
	35	Nadir		- -	- -	- -	-	- -	- - -	58.8	60.7	64.3	65.7	2.33	VI. 40.571	- - - -	- -	
	36									59.8	61.2	64.7	65.8	2.87				
	37		A.	43.12	47.04	-	52.00	56.02										
	38		B.	14.92	17.82	20.33	22.80	25.57										
8	39	Sun, I.	C.	46.03	48.33	50.60	52.81	55.14	17 1 50.85	58.5	58.6	60.0	60.6	115 17 59.42	I. 39.905	30.944	59.3	53.4
	40		D.	15.92	18.60	21.37	24.02	26.37		58.9	59.0	61.0	60.8	17 59.92	IX. 40.692			
	41		E.	45.42	48.60	52.34	56.18	59.02										
	42		B.	36.74	39.52	42.12	44.27	47.16										
	43		C.	7.57	10.12	12.63	14.66	17.00										
	44	Sun, II.	D.	37.58	40.05	42.80	45.92	48.30	17 4 27.80	- -	-	- -	- -	- - - -	- - -	- -	-	- -
	45		E.	7.05	10.18	13.81	17.73	20.72										
	46									58.4	58.2	57.4	60.8	357 2 58.70				
	47	Nadir		- -	- -	- -	-	-	- - -	58.0	58.3	58.5	61.5	59.08	VI. 40.657	- - - -		
	48									57.8	57.5	58.7	61.5	58.87				

CORRECTIONS, &c.

1 rev. of mic. = 34.″000.

Date.		Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d.	h.	m. s.	s.	s.	s.	s.
Dec. 1	3	− 0 13.36	+0.009	− 0.211	+ 0.639	+ 0.021
8	19	− 0 12.97	+0.001	− 0.168	+ 0.586	− 0.019

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	m. s.	m. s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1			−15 49.30	− 1 39.42	115 57 30.23							
2	- - -	- - -	+16 34.11	− 1 37.15	116 29 56.56	- -	- - -	−21 55 37.36	- -	- -	J. M.	
3												
4												
5	+ 0.65	−13.44	+ 55.06	+ 14.20	190 34 9.59	- -	17 27 3.69	+52 24 48.84	− 1.28	+ 2.43		5. Blurred.
6												
7												
8												
9	- - -	- - -	- -	- - -	- - - -	40.645	- - - -	- - - - -	-	- -		
10												
11												
12												
13	− 0.16	−13.36	+ 1 43.43	− 44.81	140 46 4.62	- -	2 35 40.75	+ 2 36 43.87	− 9.06	−42.54		
14												
15												
16												
17												
18	− 0.15	−13.36	+ 1 30.05	− 43.37	141 39 53.19	- -	2 54 35.81	+ 3 30 32.44	− 9.19	−39.93		
19												
20												
21												
22												
23	+ 0.57	−13.36	+ 5 7.88	+ 11.31	187 32 23.89	- -	3 13 51.15	+49 23 3.14	−12.76	−41.52		
24												
25												
26												
27												
28	+ 0.09	−13.35	+ 22.64	− 16.69	161 48 10.08	-	3 38 45.06	+23 38 49.33	−10.50	−34.22		
29												
30												
31												
32	− 0.28	−13.35	+ 2 48.84	− 1 20.52	124 13 29.44	-	3 51 10.49	−13 55 51.31	− 8.50	−28.34		
33												
34												
35	- -	- -	- - - -	- - - -	- - -	40.495	- - - -	- - - - -	- -	- -		
36												
37												
38												
39	− 0.43	−12.97	+20 51.57	− 1 37.97	115 37 13.27		- - - -	−22 48 24.31	- -	-		
40			−11 39.87	− 1 40.19	115 4 39.61							
41												
42												
43												
44	−15.65	−12.97	- - -	- - - -	- - - - -	-	17 2 48.31	- - - - -	- -	- -		
45												
46												
47	- - -	- - -	- - -	- - - -	- - - - -	40.690	- - - -	- - - - -	- -	- -		
48												

DATE.	Number.	OBJECT.	Set.	SECONDS OF TRANSITS. I.	II.	III.	IV.	V.	Mean.	Readings of Circle and Micrometer. A.	B.	C.	D.	Mean.	Micrometer.	Barometer.	Thermometer. Att.	Ex.
1852.				s.	s.	s.	s.	s.	h. m. s.	″	″	″	″	° ′ ″	r.	in.	°	°
	1		B.	28.54	32.90	36.28	39.90	43.73										
	2		C.	14.30	17.66	21.22	24.32	28.10		58.6	58.8	62.1	56.5	189 38 59.00				
Dec. 8	3	γ Draconis - - -	D.	58.40	2.13	6.26	10.26	13.65	17 53 43.87	58.4	57.5	60.4	55.9	58.05	VI. 39.548	29.936	59.5	54.2
	4		E.	42.05	46.18	51.87	57.65	1.93		58.4	59.8	62.0	57.0	59.30				
	5		C.	2.25	4.90	7.71	10.30	13.20										
	6	α Lyræ - - -	D.	37.10	40.42	43.62	46.90	49.53	18 32 43.70	- -	- -	- -	- -	- - - -	- - -	- -	- -	- -
	7		E.	12.00	15.33	19.76	24.52	28.00										
	8		A.	35.00	39.26	42.28	45.58	49.29										
	9		B.	10.23	13.50	15.95	18.68	21.65										
	10	β Lyræ - - -	C.	44.27	46.76	49.56	50.90	54.56	18 44 49.44	59.9	61.3	65.0	62.9	171 21 2.28	VI. 40.360	29.929	60.0	55.7
	11		D.	17.08	19.43	22.80	25.93	28.47										
	12		E.	49.50	52.62	57.00	1.18	4.47										
	13		A.	45.86	49.48	51.98	54.65	58.13										
	14		B.	15.92	18.80	21.03	23.20	25.78										
	15	ζ Aquilæ - - -	C.	45.30	47.58	49.66	51.92	54.20	18 58 49.81	60.8	64.2	65.6	68.2	151 48 4.70	VI. 39.540	29.930	60.0	55.5
	16		D.	13.62	15.90	18.58	21.30	23.35										
	17		E.	41.56	44.00	47.98	51.55	54.06										
	18		A.	13.75	17.00	19.57	22.14	25.60										
	19		B.	42.84	45.60	47.83	49.96	52.52		61.0	63.6	63.0	66.0	141 0 3.40				
	20	δ Aquilæ - - -	C.	11.40	13.63	15.72	17.95	20.08	19 18 15.84	60.8	63.3	63.9	65.6	141 0 3.40	VI. 41.498	29.928	60.2	55.5
	21		D.	38.98	41.19	43.80	46.46	48.50										
	22		E.	6.25	8.63	12.29	15.78	18.55										
	23		A.	23.64	27.13	29.82	32.47	36.00										
	24		B.	53.61	56.32	58.49	0.68	3.03										
	25	γ Aquilæ - - -	C.	22.50	24.60	26.78	29.08	31.16	19 39 26.92	- -	- -	- -	- -	- - -	- - - -	- -	- -	-
	26		D.	50.29	52.74	55.27	57.87	0.23										
	27		E.	18.00	20.71	24.10	27.93	30.61										
	28		A.	44.28	47.98	50.36	53.06	56.53										
	29		B.	14.20	16.98	19.07	21.29	23.82										
	30	α Aquilæ - - -	C.	42.98	45.10	47.33	49.32	51.67	19 43 47.37	-	-	- -	-	- - -	- - - -	- -	- -	- -
	31		D.	10.60	13.17	15.59	18.39	20.51										
	32		E.	38.05	40.77	44.35	48.11	50.67										
	33		A.	13.79	17.30	19.88	22.49	25.61										
	34		B.	43.25	46.05	48.10	50.52	52.73										
	35	β Aquilæ - -	C.	11.85	13.99	16.28	18.31	20.43	19 48 16.30	-	- -		- -	- - - -	- - - -	- -	- -	- -
	36		D.	39.61	41.79	44.43	46.89	49.16										
	37		E.	6.72	9.37	12.99	16.61	19.27										

CORRECTIONS, &c.

Date.	Error of Clock.	Hourly rate.	Value of Constants. m.	n.	c.
1852. d. h.	m. s.	s.	s.	s.	s.
Dec. 8 19	− 0 12.97	+0.001	− 0.168	+ 0.586	− 0.019

1 rev. of mic. = 34.″000.

Number.	CORRECTIONS. IN AR. Inst.	CORRECTIONS. IN AR. Clock.	CORRECTIONS. IN DEC. Inst.	CORRECTIONS. IN DEC. Object.	Corrected Circle Readings.	Mic. zero.	OBSERVED R. Ascen'n.	OBSERVED Declination.	Reduction to 1850.0. AR.	Reduction to 1850.0. Dec.	Observer.	REMARKS.
	s.	s.	s.	s.	° ′ ″	r.	h. m. s.	° ′ ″	s.	″		
1												
2												
3	−22.01	−12.97	+ 39.18	+ 12.90	189 39 50.86	- -	17 53 8.89	+51 30 30.11	− 1.45	− 2.71	J. M.	
4												
5												
6	−35.65	−12.97	- - -	- - -	- - -	- -	18 31 55.08	- - - -	− 3.63	- -		
7												
8												
9												
10	+ 0.19	−12.97	+ 11.32	− 6.75	171 21 6.85	40.690	18 44 36.66	+33 11 46.10	− 4.23	−16.13		10. Faint.
11												
12												
13												
14												
15	− 0.05	−12.97	+ 39.45	− 28.19	151 48 15.96	-	18 58 36.79	+13 38 55.21	− 5.88	−17.22		
16												
17												
18												
19												
20	− 0.17	−12.97	− 27.72	− 41.83	140 58 53.85	- -	19 18 2.70	+ 2 49 33.10	− 6.66	−20.24		20. Faint.
21												
22												
23												
24												
25	− 0.09	−12.97	- - -	- - - -	- - - - -	- -	19 39 13.86	- - - -	− 6.27	- -		
26												
27												
28												
29												
30	− 0.10	−12.97	- - - -	- - -	- - - - -	- -	19 43 34.30	- - - -	− 6.50	- -		
31												
32												
33												
34												
35	− 0.12	−12.97	- - - -	- - - -	- - - - -	- -	19 48 3.21	- - - -	− 6.56			
36												
37												

OBSERVATIONS

WITH THE

EQUATORIAL,

1852.

HYGEIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 7	10 Santini	43.0	55.0	8.0	7 31 55.33	2 36.965	+ 0 55.67	— 5.530
	Hygeia	39.0	51.0	3.0	32 51.00	2 42.495		
	10 Santini	40.2	53.0	5.1	34 52.77	2 37.071	+ 0 56.03	— 5.391
	Hygeia	36.5	48.7	1.2	35 48.80	2 42.462		
	10 Santini	18.4	30.9	43.0	37 30.77	2 36.929	+ 0 55.46	— 5.291
	Hygeia	14.2	26.5	38.0	38 26.23	2 42.220		
	10 Santini	3.0	16.3	27.9	41 15.73	2 36.885	+ 0 55.34	— 5.164
	Hygeia	59.0	11.2	23.0	42 11.07	2 42.049		
	10 Santini	29.6	41.7	54.0	43 41.77	2 36.858	+ 0 55.63	— 5.194
	Hygeia	25.2	38.0	49.0	44 37.40	2 42.052		
	10 Santini	11.0	23.5	36.0	8 42 23.50	2 36.960	+ 0 57.83	— 4.080
	Hygeia	9.0	21.0	34.0	43 21.33	2 41.040		
	10 Santini	18.3	31.3	43.2	46 30.93	2 36.918	+ 0 57.97	— 4.424
	Hygeia	16.5	29.2	41.8	47 28.90	2 41.342		
	10 Santini	57.3	9.3	22.5	49 9.70	2 36.646	+ 0 57.60	— 4.124
	Hygeia	53.9	8.0	20.0	50 7.30	2 40.770		

RESULTS.

Corr. Chron. + 0 m. s. 13.63

	α	δ
	h. m. s.	° ′ ″
10 Santini,	0 8 1.19	+ 5 0 8.72

Hygeia—10 Santina,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 39 0.53	+ 0 55.63	— 1 21.67
Δt		+ .15	.00
Δϱ		— .01	— .04
p		+ .08	+ 1.38

Hygeia—10 Santini,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 47 12.81	+ 0 57.80	— 1 4.69
Δt		+ .16	.00
Δϱ		.00	— .04
p		+ .10	+ 1.41

NOTE.—All the Observations with the Equatorial made in this year, 1852, are by Mr. James Ferguson.

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 24	641, B.A.C.	47.5	-	12.0	7 18 59.75	3 42.170	+ 0 12.00	+ 9.584
	Parthenope	59.5	-	24.0	19 11.75	2 45.579		
	641, B.A.C.	40.9	-	5.0	21 52.95	3 42.450	+ 0 12.55	+ 10.013
	Parthenope	53.0	-	18.0	22 5.50	2 45.430		
	641, B.A.C.	35.0	-	0.3	22 47.65	3 42.318	+ 0 12.85	+ 9.832
	Parthenope	48.0	-	13.0	23 0.50	2 45.479		
	641, B.A.C.	28.0	-	52.5	23 40.25	3 42.441	+ 0 12.75	+ 10.024
	Parthenope	-	53.0	4.0	23 53.00	2 45.410		
	641, B.A.C.	22.0	-	47.0	25 34.50	3 42.879	+ 0 12.40	+ 10.092
	Parthenope	34.3	-	59.5	25 46.90	2 45.780		
	641, B.A.C.	9.0	-	33.5	27 21.25	3 42.500	+ 0 12.75	+ 10.159
	Parthenope	22.0	-	46.0	7 27 34.00	2 45.334		
	641, B.A.C.	14.1	26.0	38.0	8 32 26.03	3 45.005	+ 0 15.47	+ 11.448
	Parthenope	29.0	-	54.0	32 41.50	2 46.550		
27	Weisse I, 1040	11.0	23.2	36.0	7 43 23.40	4 42.892	+ 2 3.56	− 17.853
	Parthenope	-	27.0	40.0	45 26.96	5 43.600		
	Weisse I, 1040	33.6	46.0	58.0	48 45.87	4 42.991	+ 2 4.13	− 17.664
	Parthenope	38.0	50.0	2.0	50 50.00	5 43.510		
	Weisse I, 1040	34.2	37.0	49.0	52 36.73	4 42.839	+ 2 4.54	− 17.538
	Parthenope	29.2	41.6	53.0	54 41.27	5 43.232		
	Weisse I, 1040	15.2	28.2	40.3	56 27.90	4 42.779	+ 2 4.36	− 17.676
	Parthenope	-	32.3	44.5	58 32.26	5 43.310		
	Weisse I, 1040	27.0	39.0	51.6	8 8 39.20	2 33.882	+ 2 5.13	− 17.129
	Parthenope	32.0	44.0	57.0	10 44.33	3 38.018		
30	672, B.A.C.	46.0	58.1	-	9 42 58.35	2 37.768	+ 0 19.32	− 0.032
	Parthenope	6.0	17.5	29.5	43 17.67	2 37.800		
	672, B.A.C.	54.6	7.0	-	45 7.25	2 37.510	+ 0 19.08	+ 0.070
	Parthenope	14.0	26.0	39.0	45 26.33	2 37.440		
	672, B.A.C.	23.2	35.2	-	47 35.45	2 37.530	+ 0 20.00	+ 0.120
	Parthenope	-	55.2	7.2	47 55.45	2 37.410		
	672, B.A.C.	26.2	38.0	-	49 38.25	2 37.541	+ 0 20.82	+ 0.279
	Parthenope	47.0	59.0	11.2	49 59.07	2 37.262		
Feb. 8	Parthenope	36.0	48.1	0.0	7 48 48.03	3 48.750		
	138, Santini	46.2	59.0	11.0	50 58.73	4 46.610	− 2 10.70	+ 10.776
	Parthenope	45.2	57.0	-	52 56.95	3 48.571		
	138, Santini	56.0	8.0	20.2	55 8.66	4 46.549	− 2 11.71	+ 10.894
	Parthenope	45.1	57.0	9.0	58 57.03	3 48.301		
	138, Santini	56.0	8.3	20.3	8 1 8.20	4 46.380	− 2 11.17	+ 10.995
	Parthenope	59.2	11.1	24.0	3 11 37	3 48.210		
	138, Santini	9.1	22.0	34.1	5 21.73	4 46.408	− 2 10.36	+ 11.114
	Parthenope	28.1	40.2	52.5	6 40.26	3 48.110		
	138, Santini	38.0	50.3	2.7	8 50.33	4 46.382	− 2 10.07	+ 11.188
	Parthenope	43.0	55.0	7.0	15 55.00	3 47.660		
	138, Santini	52.0	4.9	17.2	18 4.70	4 46.189	− 2 9.70	+ 11.445

RESULTS.

Jan. 24 — Corr. Chron. + 0 m. s. 49.89

641, B.A.C., α h. m. s. 1 57 2.08, δ + 7° 1′ 19″.87

Parthenope—641, B.A.C.,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 34 17.48	+ 0 12.97	+ 2 36.22
	Δt	+ .03	.00
	Δϱ	.00	+ .06
	p	+ .09	+ 1.97

27 — Corr. Chron. + 0 m. s. 53.21

Weisse I, 1040, α h. m. s. 1 58 22.62, δ + 7° 32′ 16″.62

Parthenope—Weisse I, 1040,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 56 56.17	+ 2 4.34	− 4 30.08
	Δt	+ .33	.00
	Δϱ	.00	− .12
	p	+ .11	+ 1.93

30 — Corr. Chron. + 0 m. s. 54.70

672, B.A.C., α h. m. s. 2 3 31.72, δ + 7° 52′ 23″.40

Parthenope—672, B.A.C.,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 47 34.33	+ 0 19.80	+ 0 1.68
	Δt	+ .05	.00
	p	+ .17	+ 2.03

Feb. 8 — Corr. Chron. + 0 m. s. 59.83

138 Santani, α h. m. s. 2 16 35.40, δ + 9° 2′ 23″.54

Parthenope—138 Santini,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	8 2 4.60	− 2 10.62	+ 2 50.13
	Δt	− .36	.00
	Δϱ	.00	+ .08
	p	+ .13	+ 1.79

(Continued.)

PARTHENOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 14	Weisse II, 305	22.0	35.1	47.0	7 51 34.70	2 44.282	+ 3 12.30	+ 4.692
	Parthenope	35.0	47.0	59.0	54 47.00	2 39.590		
	Weisse II, 305	33.1	47.7	2.0	7 56 47.60	2 44.258	+ 3 12.90	+ 4.593
	Parthenope	46.0	0.0	14.0	8 0 0.50	2 39.665		
	Weisse II, 305	7.8	22.1	37.1	1 22.33	2 44.263	+ 3 13.57	+ 4.783
	Parthenope	21.3	-	-	4 35.90	2 39.480		
	Weisse II, 305	43.9	59.0	13.0	5 58.63	2 44.242	+ 3 12.77	+ 4.884
	Parthenope	57.0	11.2	26.0	9 11.40	2 39.358		

RESULTS.

			m. s.
	Corr. Chron.		+ 1 2.72
	α		δ
	h. m. s.		° ′ ″
Weisse II, 305,	2 18 48.69		+ 9 53 39.88
Parthenope—Weisse II, 305,			
	△α		△δ
	h. m. s.	m. s.	′ ″
M. T.	8 3 11.42	+ 0 4.74	+ 1 12.82
	Δt	.01	.00
	Δϱ	.00	+ .04
	p	+ .13	+ 1.73

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 1	Eunomia	26.0	39.0	51.0	5 46 38.67	1 47.768		
	Weisse XX, 1394	25.5	37.0	50.2	49 37.57	1 48.965	− 2 58.90	+ 1.197
	Eunomia	49.3	2.3	15.0	52 2.20	1 46.593		
	Weisse XX, 1394	48.5	1.2	13.2	55 0.93	1 48.623	− 2 58.73	+ 2.030
	Eunomia	57.0	9.3	22.5	5 57 9.60	1 45.971		
	Weisse XX, 1394	56.0	8.3	21.0	6 0 8.43	1 48.226	− 2 58.83	+ 2.255
7	1888, G. 12 Y. C.	28.7	41.0	54.0	6 0 41.23	1 40.718	+ 0 50.81	− 22.075
	Eunomia	-	32.0	44.0	1 32.04	3 32.729		
	1888, G. 12 Y. C.	25.0	38.0	50.1	3 37.77	1 40.368	+ 0 51.27	− 22.166
	Eunomia	-	29.0	41.0	4 29.04	3 32.470		
	1888, G. 12 Y. C.	45.7	58.0	10.9	5 58.20	1 40.101	+ 0 50.70	− 22.075
	Eunomia	36.5	49.0	1.2	6 48.90	3 32.112		
	1888, G. 12 Y. C.	37.0	49.3	2.3	8 49.53	1 39.670	+ 0 51.14	− 21.933
	Eunomia	28.0	41.0	53.0	9 40.67	3 31.539		
	1888, G. 12 Y. C.	53.0	5.6	18.0	12 5.53	1 39.298	+ 0 51.71	− 21.575
	Eunomia	-	57.2	9.2	12 57.24	3 30.809		
	1888, G. 12 Y. C.	24.2	37.0	49.1	14 36.77	1 38.858	+ 0 51.56	− 21.735
	Eunomia	16.0	28.0	41.0	15 28.33	3 30.529		
	1888, G. 12 Y. C.	47.1	59.0	12.3	16 59.47	1 38.438	+ 0 51.92	− 21.561
	Eunomia	-	-	4.0	17 51.39	3 29.935		
	1888, G. 12 Y. C.	52.5	5.0	18.0	20 5.17	1 37.859	+ 0 51.87	− 21.534
	Eunomia	-	57.0	9.5	20 57.04	3 29.329		
	1888, G. 12 Y. C.	56.2	9.0	21.3	30 8.83	1 34.990	+ 0 52.56	− 21.142
	Eunomia	-	-	14.0	31 1.39	3 26.068		
	1888, G. 12 Y. C.	36.0	48.5	1.2	33 48.57	1 33.978	+ 0 53.47	− 21.064
	Eunomia	-	42.0	54.2	34 42.04	3 24.978		
13	Eunomia	25.0	37.2	49.2	6 3 37.13	1 49.366		
	Weisse XXI, 346	7.0	19.5	32.0	5 19.50	3 55.216	− 1 42.37	+ 35.914
	Eunomia	38.5	50.0	3.0	8 50.50	1 47.992		
	Weisse XXI, 346	20.0	32.3	44.6	10 32.30	3 54.373	− 1 41.80	+ 36.445
	Eunomia	11.0	23.0	36.0	13 23.33	1 46.808		
	Weisse XXI, 346	51.7	4.2	17.0	15 4.30	3 53.409	− 1 40.97	+ 36.665
14	Weisse XXI, 346	44.0	-	-	5 57 56.10	5 47.207	+ 0 8.90	+ 75.956
	Eunomia	-	5.0	-	58 5.00	1 31.370		
	Weisse XXI, 346	12.0	24.0	-	6 1 24.00	5 46.959	+ 0 8.00	+ 76.115
	Eunomia	-	32.0	44.0	1 32.00	1 30.969		
	Weisse XXI, 346	53.0	-	17.0	4 5.00	5 46.752	+ 0 8.00	+ 76.517
	Eunomia	-	13.0	-	4 13.00	1 30.360		
	Weisse XXI, 346	26.2	-	51.0	6 38.60	5 46.060	+ 0 9.40	+ 75.935
	Eunomia	-	48.0	-	6 48.00	1 30.250		
	Weisse XXI, 346	31.2	-	55.0	8 43.10	5 45.831	+ 0 8.90	+ 76.232
	Eunomia	-	52.5	-	8 52.00	1 29.724		

RESULTS.

Corr. Chron + 0 m. s. 11.84

	a	δ
	h. m. s.	° ′ ″
Weisse XX, 1394,	20 54 16 76	−13 1 34.75

Eunomia—Weisse XX, 1394,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	5 52 8.66	+ 2 58.82	+ 0 28.08
	Δt	.49	
	Δϱ	.00	+ .05
	p +	.12	+ 1.93

Corr. Chron. + 0 m. s. 15.07

	a	δ
	h. m. s.	° ′ ″
1888, G. 12 Y. C.	21 1 29.50	−11 58 10.03

Eunomia—1888, G. 12 Y. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 15 47.88	+ 0 51.70	− 5 33.30
	Δt +	.14	
	Δϱ −	.08	− 1.16
	p +	.13	+ 1.83

Corr. Chron. + 0 m. s. 26.55

	a	δ
	h. m. s.	° ′ ″
Weisse XXI, 346	21 15 9.33	−11 13 10.64

Eunomia—Weisse XXI, 346,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 9 3.54	− 1 41.71	+ 9 18.55
	Δt −	.27	
	Δϱ +	.14	+ 2.02
	p +	.13	+ 1.80

Corr. Chron. + 0 m. s. 28.49

	a	δ
	h. m. s.	° ′ ″
Weisse XXI, 346	21 15 9.33	−11 13 10.67

Eunomia—Weisse XXI, 346,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 4 22.49	+ 0 8.64	+19 30.41
	Δt +	.02	
	Δϱ +	.29	+ 4.08
	p +	.13	+ 1.80

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 14	Egeria	38.0	- -	9.0	10 25 53.50	3 39.015		
	B. Z. 467, 68	44.0	- -	15.0	25 59.67	3 33.182	− 0 6.17	− 5.833
	Egeria	27.0	- -	58.0	35 42.50	4 25.991		
	B. Z. 467, 68	34.0	- -	5.0	35 49.50	4 20.120	− 0 7.00	− 5.871
	Egeria	58.0	-	29.0	42 13.50	3 39.000		
	B. Z. 467, 68	4.0	-	35.0	42 19.50	3 33.288	− 0 6.00	− 5.712
	Egeria	24.0	- -	55.0	44 39.50	3 28.909		
	B. Z. 467, 68	31.0	- -	2.0	44 46.50	3 33.290	− 0 7.00	− 5.619
17	B. Z. 467, 59	3.0	18.4	34.0	9 31 18.47	5 36.698	+ 2 24.86	+ 20.763
	Egeria	28.0	43.0	59.0	33 43.33	4 33.080		
	B. Z. 467, 59	22.2	38.0	53.4	35 37.87	5 36.660	+ 2 24.63	+ 20.770
	Egeria	46.5	3.0	18.0	38 2.50	4 33.035		
	B. Z. 467, 59	10.2	26.0	42.0	40 26.07	5 36.799	+ 2 24.73	+ 20.782
	Egeria	35.4	51.0	6.0	42 50.80	4 33.162		
	B. Z. 467, 59	51.0	6.3	22.1	44 6.47	5 36.888	+ 2 24.43	+ 20.933
	Egeria	15.2	31.0	46.5	46 30.90	4 33.100		
	B. Z. 467, 59	33.2	48.3	4.2	47 48.57	5 36.822	+ 2 24.76	+ 20.937
	Egeria	58.0	13.0	29.0	50 13.33	4 33.030		
Mar. 7	B. Z. 412, 16	19.2	35.0	51.0	8 48 35.07	2 40.880	+ 2 12.60	− 15.593
	Egeria	32.0	48.0	3.0	50 47.67	3 43.480		
	B. Z. 412, 16	42.0	58.0	13.6	57 57.87	2 40.842	+ 2 11.53	− 15.480
	Egeria	54.0	9.0	25.2	9 0 9.40	3 43.329		
	B. Z. 412, 16	6.2	21.7	37.2	1 21.70	2 40.763	+ 2 11.97	− 15.635
	Egeria	18.0	34.0	49.0	3 33.67	3 43.405		
	B. Z. 412, 16	4.7	20.2	36.2	4 20.37	2 40.828	+ 2 12.16	− 15.565
	Egeria	16.8	32.7	48.1	6 32.53	3 43.400		
	B. Z. 412, 16	0.2	16.8	32.3	7 16.43	2 40.730	+ 2 11.90	− 15.561
	Egeria	13.0	28.0	44.0	9 28.33	3 43.298		
	B. Z. 412, 16	35.2	51.0	6.9	10 51.03	2 40.769	+ 2 11.70	− 15.553
	Egeria	47.0	3.0	18.2	13 2.73	3 43.329		
	B. Z. 412, 16	32.0	48.2	3.2	13 47.80	2 40.698	+ 2 11.00	− 15.793
	Egeria	44.0	58.2	14.2	15 58.80	3 43.498		
	B. Z. 412, 16	55.9	11.3	27.0	17 11.40	2 40.771	+ 2 11.27	− 15.482
	Egeria	7.0	23.0	38.0	19 22.67	3 43.260		
	B. Z. 412, 16	28.2	44.0	59.0	20 43.73	2 40.698	+ 2 11.24	− 15.578
	Egeria	39.2	55.2	10.5	22 54.97	3 43.283		
	B. Z. 412, 16	24.1	40.0	55.2	23 39.77	2 40.725	+ 2 11.20	− 15.573
	Egeria	35.0	51.2	6.7	25 50.97	3 43.305		
	B. Z. 412, 16	20.0	35.8	51.0	26 35.60	2 40.805	+ 2 10.83	− 15.523
	Egeria	30.9	46.4	2.0	28 46.43	3 43.335		
10	Egeria	9.1	25.0	41.0	9 47 25.03	2 43.420		
	B. Z. 412, 6	13.0	28.0	46.0	48 28.33	3 41.791	− 1 3.30	+ 11.364
	Egeria	37.0	52.0	8.0	58 52.33	2 43.385		
	B. Z. 412, 6	40.0	56.0	12.0	59 56.00	3 41.898	− 1 3.67	+ 11.506

RESULTS.

Corr. Chron. + 0 m. s. 57.04

	a (h. m. s.)	δ (° ′ ″)
B. Z. 467, 68,	12 24 44.94	+21 44 7.56

Egeria—B. Z. 467, 68,

		Δa (m. s.)	Δδ (′ ″)
M. T.	10 38 4.29	− 0 6.54	− 1 28.52
	Δt −	.02	
	Δϱ	.00	− .04
	p −	.27	+ 2.42

Corr. Chron. + 1 m. s. 0.31

	a (h. m. s.)	δ (° ′ ″)
B. Z. 467, 59,	12 17 4.23	+22 59 16.55

Egeria—B. Z. 467, 59,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 43 16.48	+ 2 24.68	+ 5 20.26
	Δt +	.40	
	Δϱ −	.01	+ .18
	p −	.30	+ 2.65

Corr. Chron. + 0 m. s. 6.08

	a (h. m. s.)	δ (° ′ ″)
B. Z. 412, 16,	12 6 57.80	+24 29 16.28

Egeria—B. Z. 412, 16,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 12 30.46	+ 2 11.58	+ 3 59.40
	Δt +	.36	
	Δϱ	.00	+ .09
	p −	.28	+ 2.26

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 10	Egeria	55.0	10.9	26.8	10 1 10.90	2 43.338		
	B. Z. 412, 6	59.0	14.0	30.0	2 14.33	3 41.859	— 1 3.43	+ 11.514
	Egeria	0.9	16.0	32.0	3 16.30	2 43.250		
	B. Z. 412, 6	4.6	20.0	36.2	4 20.26	3 41.932	— 1 3.96	+ 11.675
	Egeria	9.1	24.6	40.0	5 24.57	2 43.328		
	B. Z. 412, 6	12.6	28.0	44.1	6 28.23	3 41.909	— 1 3.66	+ 11.574
	Egeria	16.0	31.4	47.0	7 31.47	2 43.285		
	B. Z. 412, 6	20.0	35.6	51.2	8 35.60	3 41.910	— 1 4.13	+ 11.618
	Egeria	56.0	12.1	27.1	10 11.73	2 43.171		
	B. Z. 412, 6	0.2	16.0	31.0	11 15.73	3 41.852	— 1 4.00	+ 11.674
	Egeria	6 0	21.5	37.3	12 21.60	2 43.315		
	B. Z. 412, 6	10.2	26.0	41.2	13 25.80	3 41.925	— 1 4.20	+ 11.603
18	Egeria		30.0	46.0	9 27 30.00	3 43.758		
	B. Z. 503, 23		20.5	37.0	28 20.50	2 45.150	— 0 50.50	— 11.601
	Egeria	15.0	31.0	47.0	42 31.00	3 43.772		
	B. Z. 503, 23		24.0	39.0	43 24.00	2 45.382	— 0 53.00	— 11.383
	Egeria	45.0	1.0	17.0	50 1.00	3 43.510		
	B. Z. 503, 23		54.0	9.0	50 54.00	2 45.189	— 0 53.00	— 11.314
31	Egeria	44.0	59.0	14.9	8 42 59.30	5 50.035		
	3738, Rumker	49.0	5.0	21.0	45 5.00	1 30.059	— 2 5.70	— 80.101
	Egeria	16.0	32.0	48.0	47 32.00	5 50.081		
	3738, Rumker	23.0	39.0		49 39.00	1 30.070	— 2 7.00	— 80.135
	Egeria	24.1	39.2	56.0	9 0 39.77	5 50.150		
	3738, Rumker	31.5	46.7	3.0	2 47.07	1 30.201	— 2 7.30	— 80.074
	Egeria	9.2	25.7	40.9	4 25.26	5 50.360		
	3738, Rumker	16.2	31.0	47.0	6 31.40	1 30.101	— 2 6.14	— 80.384
	Egeria	39.5	55.7	11.5	8 55.57	5 50.314		
	3738, Rumker	47.5	3.0	19.0	11 3.17	1 30.204	— 2 7.60	— 80.235
	Egeria	43.9	58.5	15.0	12 59.13	5 50.442		
	3738, Rumker	51.0	6.0	22.0	14 6.33	1 30.335	— 2 7.20	— 80.232
	Egeria	49 0	5.0	21.0	20 5.00	5 50.725		
	3738, Rumker	57.1	13.0	29.0	22 13.03	1 30.385	— 2 8.03	— 80.465
	Egeria	28.2	44.0	59.2	23 43.83	5 50.708		
	3738, Rumker	36.2	52.0	8.0	25 52.56	1 30.272	— 2 8.73	— 80.561
	Egeria	19.5	35.2	51.0	31 35.23	5 50.768		
	3738, Rumker	28.0	44.0	59.7	33 43.90	1 30.380	— 2 8.67	— 80.513
	Egeria	45.0	0.0	16.0	37 0.37	5 50.888		
	3738, Rumker	54.2	9.1	25.0	39 9.43	1 30.378	— 2 9.06	— 80.635
Apr. 2	B. Z. 353, 57	29.2	45.0	0.0	9 2 44.73	2 36.663	+ 4 23.37	— 22.186
	Egeria	52.2	8.0	24.1	7 8.10	4 32.940		
	B. Z. 353, 57	9.0	24.2	40.2	9 24.47	2 36.555	+ 4 22.60	— 22.448
	Egeria	31.5	47.0	2.7	13 47.07	4 33.094		
	B. Z. 353, 57	56.4	12.0	28.0	15 12.13	2 36.680	+ 4 22.57	— 22.424
	Egeria	19.0	34.2	50.9	19 34.70	4 33.195		

RESULTS.

Corr. Chron. + 0 m. 3.52 s.

	α	δ
B. Z. 412, 6,	12 h. 0 m. 30.36 s.	+24° 31′ 27.89″

Egeria—B. Z. 412, 6,

		△α	△δ
M. T.	10 h. 3 m. 20.26 s.	— 1 m. 3.79 s.	+ 2′ 57.76″
	Δt	— .17	
	Δρ	.00	+ .06
	p	— .21	+ 1.86

Corr. Chron. + 0 m. 1.58 s.

	α	δ
B. Z. 503, 23,	11 h. 51 m. 30.50 s.	+24° 46′ 42.71″

Egeria—B. Z. 503, 23,

		△α	△δ
M. T.	9 h. 40 m. 2.25 s.	— 0 m. 52.17 s.	— 2′ 55.72″
	Δt	— .14	
	Δρ	.00	— .06
	p	— .19	+ 1.74

Corr. Chron. + 0 m. 0.96 s.

	α	δ
3738, Rumker,	11 h. 39 m. 21.26 s.	+24° 32′ 28.94″

Egeria—3738, Rumker,

		△α	△δ
M. T.	9 h. 11 m. 0.51 s.	— 2 m. 7.54 s.	—20′ 34.69″
	Δt	— .35	
	Δρ	.00	— .38
	p	— .14	+ 1.54

Corr. Chron. + 0 m. 0.82 s.

	α	δ
B. Z. 353, 57,	11 h. 31 m. 0.57 s.	+24° 8′ 52.36″

Egeria—B. Z. 353, 57,

		△α	△δ
M. T.	9 h. 22 m. 31.40 s.	+ 4 m. 22.47 s.	— 5′ 46.03″
	Δt	+ .72	
	Δρ	.00	— .10
	p	— .11	+ 1.50

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 2	B. Z. 353, 57	41.6	57.0	13.0	9 20 57.20	2 36.563	+ 4 22.60	− 22.571
	Egeria	4.1	19.6	35.7	25 19.80	4 33.225		
	B. Z. 353, 57	13.0	28.7	44.2	27 28.63	2 36.592	+ 4 21.80	− 22.676
	Egeria	34.7	50.6	6.0	31 50.43	4 33.359		
	B. Z. 353, 57	46.1	1.0	17.5	33 1.53	2 36.650	+ 4 21.87	− 22.778
	Egeria	8.2	23.0	39.0	37 23.40	4 33.519		
7	Egeria	53.2	8.0	24.0	9 43 8.40	1 29.453		
	(a)	32.0	48.0	4.0	43 48.00	5 45.012	− 0 39.60	+ 75.684
	Egeria	33.0	48.0	4.0	48 48.33	1 29.520		
	(a)	- -	28.0	44.0	49 28.12	5 45.078	− 0 39.79	+ 75.683
	Egeria	6.0	21.6	37.0	52 21.53	1 29.580		
	(a)	46.0	1.5	17.0	53 1.50	5 45.012	− 0 39.97	+ 75.557
	Egeria	50.0	5.0	21.5	58 5.50	1 29.820		
	(a)	30.0	46.0	1.0	58 45.67	5 44.991	− 0 40.17	+ 75.296
9	Egeria	50.5	6.0	21.0	9 34 5.83	3 37.712		
	(a)	58.0	14.0	29.5	36 13.83	5 35.090	− 2 8.00	+ 27.439
	Egeria	22.0	38.0	53.0	42 37.67	3 37.910		
	(a)	30.5	46.0	2.0	44 46.16	5 35.082	− 2 8.49	+ 27.233
	Egeria	55.0	10.5	26.5	51 10.67	3 38.080		
	(a)	4.0	19 2	35.0	53 19.40	5 35.065	− 2 8.73	+ 27.046
10	Egeria	2.0	18.0	33.0	7 42 17.67	5 47.155		
	(a)	- -	- -	21.0	45 5.50	5 50.690	− 2 47.83	+ 3.535
	Egeria	13.0	28.0	44.0	55 28.33	4 31.970		
	(a)	0.0	16.0	31.0	58 15.67	4 35.620	− 2 47.34	+ 3.650
	Egeria	31.0	45.5	1.0	8 0 45.83	4 32.146		
	(a)	18.0	33.5	49.0	3 33.50	4 35.720	− 2 47.67	+ 3.574
	Egeria	0.0	15.0	31.0	11 15.33	4 32.220		
	(a)	48.1	3.0	- -	14 3.06	4 35.932	− 2 47.73	+ 3.712
	Egeria	46.1	2.0	17.2	18 1.77	4 32.522		
	(a)	34.0	49.2	5.0	20 49.40	4 35.850	− 2 47.63	+ 3.328
	Egeria	9.3	25.0	40.0	28 24.77	4 32.829		
	(a)	58.0	13.0	28.5	31 13.17	4 35.985	− 2 48.40	+ 3.156
	Egeria	2.8	18.0	34.1	32 18.30	4 33.105		
	(a)	52.2	8.0	23.0	35 7.73	4 36.019	− 2 49.43	+ 2.914
13	B. Z. 496, 59	35.0	51.0	7.1	7 34 51.03	4 39.440	+ 0 41.77	+ 26.127
	Egeria	17.2	32.7	48.5	35 32.80	2 39.222		
	B. Z. 496, 59	12.0	27.2	43.2	36 27.47	4 39.549	+ 0 41.46	+ 26.237
	Egeria	53.4	9.2	24.2	37 8.93	2 39.221		
	B. Z. 496, 59	49.0	4.6	20.2	38 4.60	4 39.561	+ 0 41.40	+ 26.210
	Egeria	30.7	46.0	1.3	38 46.00	2 39.260		
	B. Z. 496, 59	32.0	47.5	3.2	40 47.57	4 39.535	+ 0 41.63	+ 26.235
	Egeria	13.5	29.0	45.1	41 29.20	2 39.209		
	B. Z. 496, 59	17.3	33.2	48.7	42 33.07	4 39.592	+ 0 41.20	+ 26.113
	Egeria	59.1	14.0	29.7	43 14.27	2 39.388		

RESULTS.

Corr. Chron. − 0 m. 2 s. 56

	a	δ
(a)		
Egeria—(a),	△a	△δ
	m. s.	′ ″
M. T. 9 h. 50 m. 33 s. 38	− 0 39.88	+19 21.25
Δt	.11	
Δϱ	.00	+ .35
p	− .05	+ 1.43

Corr. Chron. − 0 m. 1 s. 21

	a	δ
(a)		
Egeria—(a),	△a	△δ
	m. s.	′ ″
M. T. 9 h. 42 m. 36 s. 85	− 2 8.41	+ 6 58.65
Δt	− .35	
Δϱ	.00	+ .13
p	− .05	+ 1.43

Corr. Chron. − 0 m. 2 s. 16

	a	δ
(a)		
Egeria—(a),	△a	△δ
	m. s.	′ ″
M. T. 8 h. 9 m. 45 s. 27	− 2 48.00	+ 0 52.41
Δt	− .46	
Δϱ	.00	+ .02
p	− .15	+ 1.63

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 13	B. Z. 496, 59	49.6	5.5	21.0	7 44 5.37	4 39.582	+ 0 41.30	+ 26.300
	Egeria	31.3	46.5	2.2	44 46.67	2 39.191		
	B. Z. 496, 59	34.1	49.7	5.0	45 49.60	4 39.590	+ 0 41.73	+ 26.180
	Egeria	16.0	31.0	47.0	46 31.33	2 39.319		
	B. Z. 496, 59	28.6	44.3	0.2	48 44.37	4 39.641	+ 0 40.96	+ 25.970
	Egeria	10.2	25.4	41.0	49 25.33	2 39.580		
	B. Z. 496, 59	11.2	27.0	43.3	50 27.16	4 39.660	+ 0 41.11	+ 25.994
	Egeria	52.5	8.3	24.0	51 8.27	2 39.575		
	B. Z. 496, 59	55.0	11.2	26.2	53 10.80	4 39.739	+ 0 41.33	+ 25.963
	Egeria	37.0	52.2	7.2	53 52.13	2 39.685		
	B. Z. 496, 59	5.1	20.0	36.0	55 20.37	4 39.620	+ 0 40.96	+ 25.917
	Egeria	46.0	1.0	17.0	56 1.33	2 39.612		
	B. Z. 496, 59	6.2	22.0	37.5	58 21.90	4 39.599	+ 0 41.10	+ 25.723
	Egeria	47.5	3.2	18.3	59 3.00	2 39.785		
	B. Z. 496, 59	33.5	49.2	5.2	59 49.30	4 39.668	+ 0 40.33	+ 25.856
	Egeria	14.0	29.2	45.7	8 0 29.63	2 39.721		
	B. Z. 496, 59	22.6	38.5	53.6	1 38.23	4 39.671	+ 0 40.64	+ 25.838
	Egeria	3.6	19.0	34.0	2 18.87	2 39.742		
	B. Z. 496, 59	48.7	4.6	19.6	4 4.30	4 39.687	+ 0 40.47	+ 25.735
	Egeria	29.3	45.0	0.0	4 44.77	2 39.861		
	B. Z. 496, 59	24.0	39.6	55.4	5 39.67	4 39.740	+ 0 40.70	+ 25.724
	Egeria	5.0	20.0	36.0	6 20.37	2 39.925		
	B. Z. 496, 59	50.6	6.0	21.7	8 6.10	4 39.722	+ 0 40.67	+ 25.579
	Egeria	31.2	47.1	2.0	8 46.77	2 40.052		
	B Z. 496, 59	29.0	44.0	0.0	9 44.33	4 39.710	+ 0 40.44	+ 25.611
	Egeria	9.0	25.1	40.2	10 24.77	2 40.008		
	B. Z. 496, 59	40.0	56.2	11.0	12 55.73	4 39.738	+ 0 40.67	+ 25.645
	Egeria	21.0	36.2	52.0	13 36.40	2 40.002		
	B. Z. 496, 59	21.0	37.0	52.5	14 36.83	4 39.751	+ 0 40.54	+ 25.511
	Egeria	2.0	17.1	33.0	15 17.37	2 40.149		
15	Egeria	55.0	11.0	27.0	7 41 11.00	4 48.082		
	B. Z. 496, 59	23.0	39.0	54.2	41 38.73	2 41.510	— 0 27.73	— 32.481
	Egeria	12.0	28.1	43.0	43 27.70	4 48.082		
	B. Z. 496, 59	40.0	56.0	11.3	43 55.77	2 41.491	— 0 28.07	— 32.500
	Egeria	40.8	56.2	13.0	44 56.25	4 48.045		
	B. Z. 496, 59	9.0	24.0	40.6	45 24.05	2 41.371	— 0 27.80	— 32.583
	Egeria	50.2	6.0	..	47 6.05	4 48.039		
	B. Z. 496, 59	19.0	34.1	49.7	47 34.26	2 41.387	— 0 28.21	— 32.561
	Egeria	24.9	41.2	56.0	48 40.70	4 48.202		
	B. Z. 496, 59	53.2	9.0	25.0	49 9.07	2 41.419	— 0 28.37	— 32.692
	Egeria	20.2	35.6	51.0	50 35.60	4 48.136		
	B. Z. 496, 59	48.5	4.2	20.0	51 4.23	2 41.400	— 0 28.63	— 32.645
	Egeria	46.3	1.2	17.0	52 1.50	4 48.080		
	B. Z. 496, 59	15.0	30.3	46.1	52 30.47	2 41.472	— 0 28.97	— 32.517
	Egeria	21.0	36.2	..	53 36.46	4 48.176		
	B. Z. 496, 59	49.6	5.0	21.0	54 5.20	2 41.518	— 0 28.74	— 32.567

RESULTS.

Corr. Chron. — 0 m. s. 5.27

	a (h. m. s.)	δ (° ′ ″)
B. Z. 496, 59,	11 26 27.63	+22 50 25.26

Egeria—B. Z. 496, 59,

		△a (m. s.)	△δ (′ ″)
M. T.	8 54 51.64	+ 0 41.02	+ 6 38.43
	Δt	+ .11	
	Δϱ	.00	+ .12
	p	— .07	+ 1.49

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 15	Egeria	4.2	19.5	36.0	7 54 19.90	4 48.223		
	B. Z. 496, 59	33.4	48.2	4.2	55 48.60	2 41.505	— 0 28.70	— 32.627
	Egeria	54.6	11.0	26.0	58 10.53	4 48.325		
	B. Z. 496, 59	24.0	39.1	55.0	58 39.37	2 41.399	— 0 28.84	— 32.835
	Egeria	34.6	50.0	5.2	59 49.60	4 48.371		
	B. Z. 496, 59	3.0	18.2	34.2	8 0 18.47	2 41.361	— 0 28.87	— 32.919
	Egeria	1.0	16.2	32.0	1 16.40	4 48.372		
	B. Z. 496, 59	29.0	45.1	1.0	1 45.03	2 41.352	— 0 28.63	— 32.929
	Egeria	45.0	0.0	16.0	3 0.33	4 48.411		
	B. Z. 496, 59	15.0	29.0	45.0	3 29.67	2 41.452	— 0 29.34	— 32.868
	Egeria	21.2	37.0	52.0	4 36.73	4 48.492		
	B. Z. 496, 59	49.0	5.5	21.0	5 5.17	2 41.452	— 0 28.44	— 32.949
	Egeria	32.5	48.0	3.2	7 47.90	4 48.600		
	B. Z. 496, 59	1.0	17.0	32.7	8 16.90	2 41.449	— 0 29.00	— 33.060
	Egeria	12.1	28.0	43.2	9 27.77	4 48.600		
	B. Z. 496, 59	41.0	57.0	12.7	9 56.90	2 41.441	— 0 29.13	— 33.068
	Egeria	42.9	58.6	14.0	10 58.50	4 48.541		
	B. Z. 496, 59	12.0	27.0	43.2	11 27.40	2 41.442	— 0 28.90	— 33.008
	Egeria	18.7	34.0	49.5	12 34.07	4 48.635		
	B. Z. 496, 59	48.0	3.0	19.0	13 3.33	2 41.419	— 0 29.26	— 33.125
	Egeria	10 6	26.2	41.0	14 25.93	4 48.460		
	B. Z. 496, 59	39.0	54.3	10.3	14 54.53	2 41.400	— 0 28.60	— 32.969
	Egeria	40.0	56.0	11.0	15 55.67	4 48.673		
	B. Z. 496, 59	9.5	25.1	41.0	16 25.20	2 41.478	— 0 29.53	— 33.104
23	B. Z. 496, 50	19.2	34.6	49.8	7 46 34.53	5 56.000	+ 3 46.97	+ 55.440
	Egeria	6.0	21.5	37.0	50 21.50	1 60.685		
	B. Z. 496, 50	21.6	37.0	52.5	52 37.03	5 55.832	+ 3 46.64	+ 55.235
	Egeria	8.5	23.3	39.0	56 23.67	1 60.722		
	B. Z. 496, 50	51.0	6.0	21.5	58 6.16	5 55.839	+ 3 47.74	+ 55.045
	Egeria	38.5	54.0	9.2	8 1 53.90	1 60.919		
	B. Z. 496, 50	45.0	0.9	16.0	3 0.63	5 55.780	+ 3 46.87	+ 54.923
	Egeria	32.0	..	3.0	6 47.50	1 60.982		
	B. Z. 496, 50	31.4	47.3	2.9	8 47.20	5 55.682	+ 3 46.67	+ 54.755
	Egeria	18.6	34.0	49.0	12 33.87	1 61.052		
	B. Z. 496, 50	52.9	8.0	23.0	14 7.97	5 55.713	+ 3 46.73	+ 54.597
	Egeria	39.1	55.0	10.0	17 54.70	1 61.241		
	B. Z. 496, 50	0.0	15.4	30.7	19 15.37	5 55.759	+ 3 46.80	+ 54.494
	Egeria	47.0	2.0	17.5	23 2.17	1 61.390		
	B. Z. 496, 50	39.1	55.0	10.2	24 54.77	5 55.770	+ 3 46.46	+ 54.420
	Egeria	26.0	41.0	56.7	28 41.23	1 61.475		
	B. Z. 496, 50	43.0	58.5	14.0	31 58.50	5 55.809	+ 3 46.10	+ 54.085
	Egeria	29.3	44.5	0.0	35 44.60	1 61.849		
	B. Z. 496, 50	52.0	7.2	22.6	38 7.27	5 55.785	+ 3 45.76	+ 54.185
	Egeria	38.1	53.0	8.0	41 53.03	1 61.725		

RESULTS.

Corr. Chron. — 0 m. s. 7.29

	a (h. m. s.)	δ (° ′ ″)
B. Z. 496, 59,	11 26 27.62	22 50 25.48

Egeria—B. Z. 496, 59,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 58 34.64	— 0 28.69	— 8 24.14
Δt		— .08	
Δϱ		.00	— .16
p		— .13	+ 1.68

Corr. Chron. — 0 m. s. 12.00

	a (h. m. s.)	δ (° ′ ″)
B. Z. 496, 50,	11 18 41.90	21 20 1.79

Egeria—B. Z. 496, 50,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 15 19.62	+ 3 46.67	+14 0.99
Δt		+ .61	
Δϱ		.00	+ .26
p		— .13	+ 1.52

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s	h. m. s.	revs.	m. s.	revs.
Apr. 24	B. Z. 496, 49	18.2	33.4	48.3	10 29 33.30	5 37.901	+ 3 40.33	+ 43.595
	B. Z. 496, 50	32.0	47.0	2.0	29 47.07	3 39.561	+ 3 26.56	+ 15.194
	Egeria	58.0	14.0	28.9	33 13.63	2 37.360		
	B. Z. 496, 49	14.2	29.0	45.0	41 29.40	5 38.011	+ 3 40.43	+ 43.542
	B. Z. 496, 50	28.0	43.4	58.6	41 43.33	3 39.730	+ 3 26.50	+ 15.201
	Egeria	54.5	10.0	25.0	45 9.83	2 37.522		
	B. Z. 496, 49	24.0	39.5	54.5	46 39.33	5 37.944	+ 3 39.93	+ 43.208
	B. Z. 496, 50	38.0	53.0	8.0	46 53.00	3 39.712	+ 3 26.26	+ 14.915
	Egeria	4.3	19.2	34.3	50 19.26	2 37.790		
	B. Z. 496, 49	41.0	56.2	11.5	51 56.23	5 38.041	+ 3 40.77	+ 43.335
	B. Z. 496, 50	55.0	10.0	26.2	52 10.40	3 39.552	+ 3 26.60	+ 14.785
	Egeria	22.0	37.0	52.0	55 37.00	2 37.760		
	B. Z. 496, 49	26.0	41.5	56.2	57 41.23	5 37.938	+ 3 40.44	+ 43.842
	B. Z. 496, 50	40.0	55.4	11.0	57 55.47	3 39.690	+ 3 26.20	+ 15.533
	Egeria	6.5	21.5	37.0	11 1 21.67	2 37.150		
25	B. Z. 496, 49	34.2	49.7	5.5	7 58 49.80	4 36.140	+ 3 26.20	+ 10.521
	B. Z. 496, 50	49.0	4.0	19.0	59 4.00	2 33.581	+ 3 12.00	— 17.947
	Egeria	1.0	16.0	31.0	8 2 16.00	3 38.535		
	B. Z. 496, 49	13.2	28.0	43.5	4 28.23	4 36.195	+ 3 25.80	+ 10.453
	B. Z. 496, 50	26.8	42.0	57.2	4 42.00	2 33.658	+ 3 12.03	— 17.993
	Egeria	39.0	54.1	10.0	7 54.03	3 38.658		
	B. Z. 496, 49	7.0	22.2	37.5	9 22.23	4 36.165	+ 3 26.44	+ 10.371
	B. Z. 496, 50	21.0	36.3	51.2	9 36.16	2 33.501	+ 3 12.51	— 18.202
	Egeria	33.0	49.0	4.0	12 48.67	3 38.710		
	B. Z. 496, 49	23.2	38.1	53.5	15 38.26	4 36.140	+ 3 26.47	+ 10.234
	B. Z. 496, 50	37.0	52.0	7.5	15 52.17	2 33.578	+ 3 12.56	— 18.237
	Egeria	49.2	5.0	20.0	19 4.73	3 38.822		
	B. Z. 496, 49	43.2	58.5	13.5	19 58.40	4 36.129	+ 3 25.83	+ 10.073
	B. Z. 496, 50	57.2	12.0	27.8	20 12.33	2 33.539	+ 3 11.90	— 18.426
	Egeria	9.2	24.2	39.3	23 24.23	3 38.972		
May 10	3575, Rumker	19.1	34.0	49.0	10 14 34.03	3 36.730	+ 2 24.97	— 8.121
	Egeria	44.0	59.0	14.0	16 59.00	3 44.851		
	3575, Rumker	15.1	30.3	45.1	23 30.17	3 36.171	+ 2 25.08	— 9.091
	Egeria	41.0	55.7	11.2	25 55.97	3 45.262		
	3615, Rumker	16.0	31.0	46.5	28 31.17	4 48.666	— 2 35.20	+ 16.314
	3575, Rumker	56.5	12.0	27.0	32 11.83	3 36.729	+ 2 25.30	— 8.860
	Egeria	22.0	37.4	52.0	34 37.13	3 45.589		
	3615, Rumker	58.0	12.7	28.2	37 12.97	4 48.589	— 2 35.84	+ 15.916
	3575, Rumker	58.0	13 2	28.2	39 13.13	3 36.652	+ 2 25.04	— 9.028
	Egeria	23.5	38.0	53.0	41 38.17	3 45.680		
	3615, Rumker	59.0	14.0	29.0	44 14.00	4 48.730	— 2 35.83	+ 15.966
	3575, Rumker	31.8	47.0	2.0	45 46.93	2 49.665	+ 2 25.05	— 9.233
	Egeria		12 0	27.7	48 11.98	3 45.905		
	3615, Rumker	32.8	47.4	3.0	50 47.40	4 48.730	— 2 35.42	+ 15.741

RESULTS.

Apr. 24

Corr. Chron. — 0 m. 12 s. 24

	α (h. m. s.)	δ (° ′ ″)
B. Z. 496, 49,	11 18 27.75	+21 12 45.60
B. Z. 496, 50,	11 18 41.89	+21 20 1.90

Egeria—B. Z. 496, 49,

		Δα (m. s.)	Δδ (′ ″)
M. T. 10 48 56.04		+ 3 40.38	+11 8.64
	Δt	+ .60	
	Δϱ	.00	+ .21
	p	+ .12	+ 1.62

Egeria—B. Z. 496, 50,

M. T. 10 48 56.04		+ 3 26.42	+ 3 52.48
	Δt	+ .56	
	Δϱ	.00	+ .07
	p	+ .12	+ 1.62

25

Corr. Chron. — 0 m. 13 s. 90

	α (h. m. s.)	δ (° ′ ″)
B. Z. 496, 49,	11 18 27.74	+21 12 45.72
B. Z. 496, 50,	11 18 41.89	+21 20 2.02

Egeria—B. Z. 496, 49,

		Δα (m. s.)	Δδ (′ ″)
M. T. 8 12 51.63		+ 3 26.15	+ 2 38.77
	Δt	+ .56	
	Δϱ	.00	+ .05
	p	— .06	+ 1.50

Egeria—B. Z. 496, 50,

M. T. 8 12 51.63		+ 3 12.20	— 4 39.13
	Δt	+ .52	
	Δϱ	.00	— .09
	p	— .06	+ 1.50

May 10

Corr. Chron. — 0 m. 21 s. 69

	α (h. m. s.)	δ (° ′ ″)
3575, Rumker,	11 18 46.62	+18 40 24.69
3615, Rumker,	11 23 48.56	+18 34 2.69

Egeria—3575, Rumker,

		Δα (m. s.)	Δδ (′ ″)
M. T. 10 33 6.76		+ 2 25.09	— 2 16.28
	Δt	+ .40	
	Δϱ	.00	— .05
	p	+ .15	+ 1.78

Egeria—3615, Rumker,

M. T. 10 37 14.12		— 2 35.57	+ 4 5.67
	Δt	— .43	.00
	Δϱ	.00	+ .08
	p	+ .15	+ 1.78

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 20	Egeria	12.4	27.1	41.0	10 23 26.83	5 32.438		
	B. Z. 457, 86	30.5	46.0	1.0	26 45.83	3 35.720	− 3 19.00	− 26.779
	Egeria	50.2	4.0	19.2	42 4.47	5 32.550		
	B. Z. 457, 86	9.0	24.0	39.0	45 24.00	3 35.760	− 3 19.53	− 26.851
	Egeria	16.0	31.0	45.0	48 30.67	5 32.330		
	B. Z. 457, 86	35.0	49.5	5.0	51 49.83	3 35.872	− 3 19.16	− 26.519
25	Egeria	4.0	19.0	34.0	10 5 19.00	2 43.380		
	3636, Rumker	19.0	- -	48.0	5 33.50	2 44.100	− 0 14.50	+ 0.720
	Egeria	53.0	- -	22.0	7 7.50	2 43.335		
	3636, Rumker	7.0	- -	37.2	7 22.10	2 43.998	− 0 14.60	+ 0.663
	Egeria	53.0	- -	23.0	8 8.00	2 43.411		
	3636, Rumker	8.0	- -	37.2	8 22.60	2 43.944	− 0 14.60	+ 0.533
	Egeria	7.2	- -	36.1	9 21.65	2 43.440		
	3636, Rumker	21.2	- -	51.0	9 36.10	2 43.879	− 0 14.45	+ 0.439
	Egeria	45.1	- -	14.0	10 59.55	2 43.420		
	3636, Rumker	59.2	- -	29.1	11 14.15	2 43.752	− 0 14.60	+ 0.332
	Egeria	56.2	- -	26.0	12 11.10	2 43.508		
	3636, Rumker	11.5	- -	40.0	12 25.75	2 43.742	− 0 14.65	+ 0.234
	Egeria	42.0	- -	12.0	13 57.00	2 43.250		
	3636, Rumker	56.2	- -	26.0	14 11.10	2 43.671	− 0 14.10	+ 0.421
	Egeria	47.0	- -	16.4	16 1.70	2 43.430		
	3636, Rumker	1.2	- -	31.0	16 16.10	2 43.680	− 0 14.40	+ 0.250
	Egeria	2.0	- -	31.0	17 16.50	2 43.581		
	3636, Rumker	16.5	- -	46.0	17 31.25	2 43.789	− 0 14.75	+ 0.208
	Egeria	37.0	- -	7.2	18 52.10	2 43.631		
	3636, Rumker	51.0	- -	21.0	19 6.00	2 43.720	− 0 13.90	+ 0.089
	Egeria	47.2	- -	- -	20 2.03	2 43.630		
	3636, Rumker	- -	- -	31.0	20 16.10	2 43.728	− 0 14.07	+ 0.098
	Egeria	35.0	- -	4.7	21 49.85	2 43.659		
	3636, Rumker	49.0	- -	19.0	22 4.00	2 43.692	− 0 14.15	+ 0.033
	Egeria	14.3	- -	44.2	23 29.25	2 43.720		
	3636, Rumker	28.6	- -	58.0	23 43.30	2 43.640	− 0 14.05	− 0.080
	Egeria	23.2	- -	53.0	24 38.10	2 43.840		
	3636, Rumker	37.0	- -	7.0	24 52.00	2 43.685	− 0 13.90	− 0.155
	Egeria	26.2	- -	55.2	26 40.70	2 43.792		
	3636, Rumker	39.7	- -	9.0	26 54.35	2 43.630	− 0 13.65	− 0.162
	Egeria	44.1	-	13.5	27 58.80	2 43.653		
	3636, Rumker	58.0	- -	28.2	28 13.10	2 43.238	− 0 14.30	− 0 415
June 10	3706, Rumker	6.1	21.0	35.0	10 37 20.70	1 36.781	+ 1 27.30	− 66.314
	Egeria	3.3	48.0	3.0	38 48.00	5 42.970		
	3706, Rumker	51.0	5.2	21.0	41 5.73	1 36.599	+ 1 27.60	− 66.555
	Egeria	19.0	33.0	48.0	42 33.33	5 43.029		
	3706, Rumker	26.7	41.0	-	43 41.19	1 36.432	+ 1 27.84	− 66.765
	Egeria	54.0	9.0	24.1	45 9.03	5 43.072		
	3706, Rumker	57.2	11.2	27.0	46 11.80	1 36.459	+ 1 27.39	− 66.921
	Egeria	- -	39.0	54.0	47 39.19	5 43.255		

RESULTS.

Corr. Chron. − 0 m. s. 29.02

	α (h. m. s.)	δ (° ′ ″)
B. Z. 457, 86,	11 27 20.80	+13 49 41.32

Egeria—B. Z. 457, 86,

	h. m. s.		△α (m. s.)	△δ (′ ″)
M. T.	10 37 31.64		− 3 19.23	− 6 50.61
		Δt −	.54	
		Δϱ	.00	− .16
		p +	.17	+ 1.85

Corr. Chron. − 0 m. s. 29.87

	α (h. m. s.)	δ (° ′ ″)
3636, Rumker,	11 26 26.50	+15 42 39.96

Egeria—3636, Rumker,

	h. m. s.		△α (m. s.)	△δ (′ ″)
M. T.	10 15 59.68		− 0 14.29	+ 0 3.07
		Δt −	.04	
		Δϱ	.00	.00
		p +	.16	+ 1.86

Corr. Chron. − 0 m. s. 31.41

	α (h. m. s.)	δ (° ′ ″)
3706, Rumker,	11 35 2.40	+12 41 4.13

Egeria—3706, Rumker,

	h. m. s.		△α (m. s.)	△δ (′ ″)
M. T.	10 43 0.98		+ 1 27.53	−17 4.22
		Δt +	.23	
		Δϱ −	.03	− .71
		p +	.18	+ 2.01

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 8	829, Santini	45.0	59.0	14.1	8 36 59.37	1 41.118	+ 0 34.65	— 53.779
	Egeria	.	34.0	49.0	37 34.02	5 34.772		
	829, Santini	42.0	55.9	9.9	39 55.93	1 41.029	+ 0 35.09	— 53 997
	Egeria	.	31.0	45.0	40 31.02	5 34.907		
	829, Santini	48.9	3.0	17.1	43 2.67	1 40.881	+ 0 35.33	— 54.136
	Egeria	24.0	38.0	52.0	43 38.00	5 34.892		
	829, Santini	26.0	40.6	55.0	44 40.53	1 40.995	+ 0 35.14	— 54.025
	Egeria	1.5	15.0	30.5	45 15.67	5 34.895		
	829, Santini	55.0	9.0	24.6	46 9.53	1 40.895	+ 0 34.63	— 54.105
	Egeria	30.0	44.0	58.5	46 44.16	5 34.875		
	829, Santini	30.4	44.7	59.0	49 44.70	1 40.778	+ 0 35.00	— 54.367
	Egeria	5.6	19.5	34.0	50 19.70	5 35.020		
	829, Santini	29.1	42.9	57.5	52 43.17	1 40.802	+ 0 35.50	— 54.352
	Egeria	4.0	19.1	33.0	53 18.67	5 35.029		
	829, Santini	23.1	37.2	51.7	54 37.33	1 40.703	+ 0 35.67	— 54.603
	Egeria	59.0	13.0	27.0	55 13.00	5 35.181		
	829, Santini	51.2	5.5	20.0	59 5.57	1 40.662	+ 0 35.86	— 54.829
	Egeria	27.1	41.2	56.0	59 41.43	5 35.366		
	829, Santini	53.0	7.2	21.8	9 1 7.33	1 40.622	+ 0 35.84	— 54.841
	Egeria	29.0	43.0	57.5	1 43.17	5 35.338		
	829, Santini	20.3	34.1	48.9	3 34.43	1 40.488	+ 0 35.97	— 55.029
	Egeria	56.0	10.2	25.0	4 10.40	5 35.392		
	829, Santini	58.7	13.0	.	8 13.20	1 40.229	+ 0 35.70	— 55.234
	Egeria	34.2	49.0	3.5	8 48.90	5 35.338		
9	Egeria	37.5	52.0	6.2	8 37 51.90	2 37.522		
	3860, Rumker	50.0	4.0	18.3	38 4.17	2 41.524	— 0 12.27	+ 4.002
	Egeria	30.9	45.0	59.0	39 44.97	2 37.619		
	3860, Rumker	43.2	57.0	11.0	39 57.07	2 41.498	— 0 12.10	+ 3.879
	Egeria	45.0	.	13.0	40 59.00	2 37.772		
	3860, Rumker	56.5	.	25.0	41 10.75	2 41.412	— 0 11.75	+ 3.640
	Egeria	28.2	.	57.1	42 42.65	2 37.690		
	3860, Rumker	40.6	.	9.2	42 54.90	2 41.413	— 0 12.25	+ 3.723
	Egeria	24.9	.	53.0	44 38.95	2 37.718		
	3860, Rumker	37.1	51.0	5.2	44 51.10	2 41.425	— 0 12.15	+ 3.707
	Egeria	30.0	.	59.0	45 44.50	2 37.799		
	3860, Rumker	41.9	.	11.0	45 56.45	2 41.408	— 0 11.95	+ 3.609
	Egeria	39.1	.	8.0	46 53.55	2 37.839		
	3860, Rumker	51.5	5.0	19.0	47 5.17	2 41.438	— 0 11.62	+ 3.599
	Egeria	23.0	.	51.5	48 37.25	2 37.950		
	3860, Rumker	34.6	49.0	3.5	48 49.03	2 41.385	— 0 11.78	+ 3.435
	Egeria	26.1	.	55.0	49 40.55	2 37.910		
	3860, Rumker	38.0	.	7.0	49 52.50	2 41.400	— 0 11.95	+ 3.490
	Egeria	3.0	.	32.0	51 17.50	2 37.949		
	3860, Rumker	15.9	.	43.9	51 29.90	2 41.379	— 0 12.40	+ 3.430
	Egeria	21.0	.	49.3	53 35.15	2 37.889		
	3860, Rumker	33.0	.	1.0	53 47.00	2 41.190	— 0 11.85	+ 3.301

RESULTS.

m. s.
Corr. Chron. — 0 25.35

	α	δ
	h. m. s.	° ′ ″
829, Santini,	12 2 31.13	+ 6 37 46.84

Egeria—829, Santini,

		$\Delta\alpha$	$\Delta\delta$
	h. m. s.	m. s.	′ ″
M. T.	8 51 49.50	+ 0 35.36	—13 56.74
	Δt	+ .10	
	$\Delta\varrho$	— .03	— .59
	p	+ .14	+ 1.84

m. s.
Corr. Chron. — 0 25.35

	α	δ
	h. m. s.	° ′ ″
3860, Rumker,	12 4 24.47	+ 6 9 56.18

Egeria—3860, Rumker,

		$\Delta\alpha$	$\Delta\delta$
	h. m. s.	m. s.	′ ″
M. T.	8 52 23.29	— 0 11.55	+ 0 51.21
	Δt	— .03	
	$\Delta\varrho$	.00	+ .04
	p	+ .14	+ 1.84

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 9	Egeria	17.0	.	46.0	8 54 31.50	2 37.869		
	3860, Rumker	28.5	.	57.9	54 43.20	2 41.209	— 0 11.70	+ 3.340
	Egeria	36.1	.	4.0	55 50.05	2 37.982		
	3860, Rumker	46.9	.	16.2	56 1.55	2 41.289	— 0 11.50	+ 3.307
	Egeria	38.2	.	6.5	58 52.35	2 38.209		
	3860, Rumker	49.0	.	18.0	59 3.50	2 41.210	— 0 11.15	+ 3.001
	Egeria	47.1	.	15.9	9 0 1.50	2 38.249		
	3860, Rumker	58.0	.	27.1	0 12.55	2 41.230	— 0 11.05	+ 2.981
	Egeria	16.2	.	45.0	1 30.60	2 38.229		
	3860, Rumker	27.1	.	56.0	1 41.55	2 41.219	— 0 10.95	+ 2.990
	Egeria	42.0	.	10.5	3 56.25	2 38.051		
	3860, Rumker	53 0	.	21.2	4 7.10	2 41.062	— 0 10.85	+ 3.011
	Egeria	42.9	.	12.0	4 57.45	2 38.382		
	3860, Rumker	54.0	.	22.0	5 8.00	2 41.152	— 0 10.55	+ 2.770
	Egeria	32.0	.	0.5	6 46.25	2 38.200		
	3860, Rumker	42.5	.	11.2	6 56.85	2 40.922	— 0 10.60	+ 2.722
	Egeria	46.6	.	15.2	8 0.90	2 38.299		
	3860, Rumker	57.0	.	26.0	8 11.50	2 40.998	— 0 10.60	+ 2.699
10	3860, Rumker	46.2	1.3	15.0	9 6 1.83	1 40.220	+ 0 54.38	— 48.095
	Egeria	.	56.0	.	6 56.21	4 45.335		
	3860, Rumker	30.7	45.1	58.5	8 44.77	1 40.278	+ 0 55.44	— 47.923
	Egeria	26.2	40.0	.	9 40.21	4 45.221		
	3860, Rumker	38.5	53.0	7.5	10 53.00	1 40.228	+ 0 56.21	— 48.051
	Egeria	34.1	49.0	.	11 49.21	4 45.299		
	3860, Rumker	37.1	50.6	5.7	12 51.13	1 39.997	+ 0 56.18	— 48.188
	Egeria	33.0	47.1	.	13 47.31	4 45.205		
	3860, Rumker	57.1	11.0	26.0	14 11.37	1 39.941	+ 0 55.94	— 48.344
	Egeria	53.1	7.0	.	15 7.31	4 45.305		
	3860, Rumker	34.0	48.6	3.0	16 48.53	1 39.972	+ 0 56.68	— 48.295
	Egeria	30.4	45.0	.	17 45.21	4 45.287		
	3860, Rumker	57.2	11.0	26.0	18 11.40	1 39.779	+ 0 56.01	— 48.362
	Egeria	53.1	7.2	.	19 7.41	4 45.161		
	3860, Rumker	47.2	1.3	16.0	20 01.50	1 39.801	+ 0 56.71	— 48.358
	Egeria	43.5	58.0	.	20 58.21	4 45.179		
11	Egeria	10.0	23.2	37.5	8 37 23.57	3 43.722		
	Weisse XII, 91	15.2	29.0	43.0	37 29.07	2 39.181	— 0 5.50	— 17.534
	Egeria	40.0	55.0	.	38 55.07	3 43.782		
	Weisse XII, 91	46.0	0.5	15.0	39 0.50	2 39.219	— 0 5.43	— 17.556
	Egeria	22.0	.	50.2	43 36.10	3 43.810		
	Weisse XII, 91	27.0	42.0	56.0	43 41.67	2 39.130	— 0 5.57	— 17.673
	Egeria	24.0	38.0	52.8	45 38.26	3 44.010		
	Weisse XII, 91	29.5	44.0	58.0	45 43.83	2 39.135	— 0 5.57	— 17.868
	Egeria	13.0	27.5	.	47 27.57	3 43.842		
	Weisse XII, 91	18.0	33.0	47.0	47 32.67	2 39.089	— 0 5.10	— 17.746

RESULTS.

Corr. Chron. — 0 m. s. 24.35

	α	δ
	h. m. s.	° ′ ″
3860, Rumker,	12 4 24.45	+ 6 9 56.21

Egeria—3860, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 13 59.53	+ 0 55.94	—12 20.84
		Δt + .15	
		Δρ — .04	— .71
		p + .15	+ 1.86

Corr. Chron. — 0 m. s. 23.18

	α	δ
	h. m. s.	° ′ ″
Weisse, XII, 91,	12 6 32.09	+ 5 49 24.00

Egeria—Weisse XII, 91,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M T.	8 47 51.08	— 0 5.27	— 4 35.35
		Δt — .01	
		Δρ — .01	— .21
		p + .14	+ 1.84

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 11	Egeria	41.0	55.5	9.5	8 48 55.33	3 44.001		
	Weisse XII, 91	46.5	1.0	15.0	49 0.83	2 39.132	— 0 5.50	— 17.862
	Egeria	13.4	27.0	41.5	50 27.30	3 44.075		
	Weisse XII, 91	19.0	32.5	47.0	50 32.83	2 38.950	— 0 5.53	— 18.118
	Egeria	50 0	3.7	19.0	52 4.07	3 44.025		
	Weisse XII, 91	55.0	9.0	24.0	52 9.33	2 38.989	— 0 5.26	— 18.029
	Egeria	33.0	48.0	2.0	53 47.67	3 44.138		
	Weisse XII, 91	38.4	52.6	7.0	53 52.67	2 38.878	— 0 5.00	— 18.253
	Egeria	57.5	12.0	26.1	55 11.87	3 44.063		
	Weisse XII, 91	2.0	17.0	31.0	55 16.67	2 38.861	— 0 4.80	— 18.195
	Egeria	55.0	-	24.0	57 9.50	3 44.210		
	Weisse XII, 91	0 0	14 0	28.7	57 14.23	2 38.975	— 0 4.73	— 18.228
Aug. 1	Weisse XII, 515	38.0	51.5	6.0	8 23 51.83	4 34.621	+ 0 49.67	+ 37.419
	Egeria	27.0	-	56.0	24 41.50	1 40.182		
	Weisse XII, 515	58.0	12.5	26.8	27 12.43	4 34.378	+ 0 49.90	+ 36.988
	Egeria	48.0	2.0	17.0	28 2.33	1 40.370		
	Weisse XII, 515	49.5	4.1	19.2	29 4.27	4 34.222	+ 0 49.85	+ 36.930
	Egeria	-	54.0	9.0	29 54.12	1 40.272		
	Weisse XII, 515	41.2	55.1	9.3	31 55.20	4 34 038	+ 0 49.87	+ 36.867
	Egeria	31.2	45.0	59.0	32 45.07	1 40.151		
	Weisse XII, 515	46.2	0.0	14.2	34 0.13	4 33.879	+ 0 49.93	+ 36.804
	Egeria	36.2	50.0	4.0	34 50.06	1 40.055		
	Weisse XII, 515	29.7	44.0	58.0	36 43.90	4 33.555	+ 0 50.49	+ 36.693
	Egeria	-	34.2	49.0	37 34.39	1 39.842		
	Weisse XII, 515	45.1	59.0	14.0	39 59.37	4 33.249	+ 0 50.56	+ 36.808
	Egeria	36.0	49.5	4.3	40 49.93	1 39.421		
7	Weisse XII, 661	22.9	37.0	52.1	8 29 37.33	2 34.835	+ 0 38.72	— 22.284
	Egeria	-	16.0	30.5	30 16.05	4 31.210		
	Weisse XII, 661	50.7	5.0	19.0	33 4.90	2 34.150	+ 0 38.70	— 22.537
	Egeria	29.2	43.6	58.0	33 43.60	4 30.778		
	Weisse XII, 661	41.2	55.0	9.0	35 55.07	2 33.891	+ 0 38.93	— 22.328
	Egeria	20.0	34.0	48.0	36 34.00	4 30.310		
	Weisse XII, 661	21.0	35.2	49.3	38 35.16	2 32.948	+ 0 38.89	— 22.503
	Egeria	-	14.0	29.0	39 14.05	4 29.542		

RESULTS.

Corr. Chron. — 0 m. s. 16.09

	α	δ
Weisse XII, 515,	h. m. s. 12 30 58.66	+ 1° 1′ 55.93″

Egeria—Weisse XII, 515,

		Δα	Δδ
M. T.	h. m. s. 8 32 23.54	m. s. + 0 50.04	′ ″ + 9 27.59
	Δt	+ .14	
	Δρ	+ .07	+ .99
	p	+ .14	+ 1 79

Corr. Chron. — 0 m. s. 15.82

	α	δ
Weisse XII, 661,	h. m. s. 12 38 57.63	— 0° 0′ 42.38″

Egeria—Weisse XII, 661,

		Δα	Δδ
M. T.	h. m. s. 8 34 41.10	m. s. + 0 38.81	′ ″ — 5 44.48
	Δt	+ .10	
	Δρ	— .07	— 1.00
	p	+ .14	+ 1.72

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 25	* 25 W.	23.1	-	48.5	7 50 35.80	1 39.592	+ 0 9.45	— 24.692
	Victoria	33.0		57.5	50 45.25	3 34.220		
	* 25 W.	58.5	-	24.0	53 11.25	1 39.502	+ 0 9.75	— 24.749
	Victoria	-	21.0	33.0	53 21.00	3 34.187		
	* 25 W.	26.3		51.3	56 38.80	1 39.580	+ 0 7.70	— 24.899
	Victoria	34.0	-	59.0	56 46.50	3 34.415		
	* 25 W.	36.4	-	2.0	58 49.20	1 39.760	+ 0 8.05	— 24 555
	Victoria	45.0	-	9.5	58 57.25	3 34.251		
	* 25 W.	43.1	-	8.5	8 0 55.80	1 39.610	+ 0 8.55	— 24.733
	Victoria	52.0	-	16.7	1 4.35	3 34.279		
	* 25 W.	14 0	-	40.0	3 27.00	1 39.460	+ 0 9.50	— 24.789
	Victoria	-	36.0	48.0	3 36.50	3 34.185		
26	Victoria	23.0	36.0	49.0	7 36 36.00	3 44.288		
	* 25 W.	13.0	25.4	38.0	37 25.47	2 41.324	— 0 49.47	— 15.957
	Victoria	47.0	59.0	12.0	39 59.33	3 44.170		
	* 25 W.	-	49.0	1.3	40 49.04	2 41.278	— 0 49.71	— 15.885
	Victoria	16.3	29.0	41.0	42 28.77	3 44.119		
	* 25 W.	6.0	18.3	31.0	43 18.43	2 41.258	— 0 49.66	— 15.854
	Victoria	6.0	18.2	30.0	44 18.07	3 44.114		
	* 25 W.	56.0	8.0	20.9	45 8.30	2 41.275	— 0 50.23	— 15.832
	Victoria	3.0	15.1	28 2	46 15.43	3 44.113		
	* 25 W.	53.0	5.0	18.1	47 5.37	2 41.240	— 0 49.94	— 15.866
	Victoria	51.0	3.0	16.0	49 3.33	3 43.865		
	* 25 W.	40.8	53.0	6.0	7 49 53.26	2 41.245	— 0 49.93	— 15.613
	Victoria	40.0	52.0	5.0	8 28 52.33	3 37.742		
	* 25 W.	32.0	44.0	57.0	29 44.33	2 35.138	— 0 52.00	— 15.597
	Victoria	39.2	11.0	24.0	32 11.40	3 37.785		
	* 25 W.	51.0	4.0	16.2	33 3.73	2 35.332	— 0 52.33	— 15.446
	Victoria	41.2	53.0	6.0	36 53.40	3 37.861		
	* 25 W.	32.0	45.0	57.4	37 44.80	2 35.364	— 0 51.40	— 15.490
	Victoria	3.5	16.1	28.0	38 15.87	3 38.129		
	* 25 W.	55.9	8.3	20.7	39 8.37	2 35.510	— 0 52.50	— 15.612
	Victoria	5.6	18.0	30.5	41 18.03	3 38.325		
	* 25 W.	57.8	9.5	22.9	42 10.07	2 35.475	— 0 52.04	— 15.843
	Victoria	57.0	9.2	21.0	44 9.07	3 38.252		
	* 25 W.	49.0	1.0	14.0	45 1.33	2 35.669	— 0 52.26	— 15.576
	Victoria	20.8	32.9	45.6	46 33.10	3 38.152		
	* 25 W.	13.2	26.1	38.2	47 25.83	2 35.528	— 0 52.73	— 15.617
	Victoria	34.0	46.1	58.0	48 46.03	3 38.188		
	* 25 W.	26.3	39.0	51.0	49 38.77	2 35.699	— 0 52.74	— 15.482
	Victoria	42.1	54.6	7.0	50 54.57	3 38.208		
	* 25 W.	34.6	47.2	59.2	51 47.00	2 35.695	— 0 52.43	— 15.506
	Victoria	47.2	59.3	11.0	52 59.50	3 38.127		
	* 25 W.	39.7	52 1	5.0	53 52.26	2 35.648	— 0 52.76	— 15.472

RESULTS.

Corr. Chron. + 0 m. 52.32 s.

	α	δ
* 25 W.,	h. m. s. 7 32 58.08	+10° 27′ 58.46″

Victoria—* 25 W.,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	7 58 17.46	+ 0 8.83	— 6 20.18
Δt		+ .02	
Δϱ		.00	— .18
p		— .18	+ 2.37

Corr. Chron. + 0 m. 52.70 s.

	α	δ
* 25 W.,	h. m. s. 7 32 58.08	+10° 27′ 58.44″

Victoria—* 25 W.,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	8 20 51.08	— 0 51.38	— 4 0.76
Δt		— .14	
Δϱ		.00	— .10
p		— .16	+ 2.31

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1852. Feb. 3	Weisse VII, 756	55.0	6.9	- -	7 44 6.95	4 43.552	− 0 15.10	+ 2.092
	Victoria	- -	22.0	-	44 22.05	4 41.460		
	Weisse VII, 756	47.2	0.0	2.0	45 59.73	4 43.341	+ 0 14.32	+ 1.661
	Victoria		14.0	- -	46 14.05	4 41.680		
	Weisse VII, 756	46.1	58.0	11.0	48 58.37	4 43.379	+ 0 14.68	+ 1.691
	Victoria	- -	13.0	25.0	49 13.05	4 41.688		
	Weisse VII, 756	59.0	11.2	- -	53 11.25	4 43.412	+ 0 14.80	+ 1.814
	Victoria	-	26.0	- -	53 26.05	4 41.598		
	Weisse VII, 756	43.0	56.0	- -	54 56.05	4 43.452	+ 0 13.00	+ 1.882
	Victoria	- -	9.0	22.0	55 9.05	4 41.570		
	Weisse VII, 756	52.0	4.2	- -	57 4.25	4 43.320	+ 0 14.80	+ 1.710
	Victoria	-	19.0	- -	57 19.05	4 41.610		
	Weisse VII, 756	54.2	7.0	- -	8 33 7.05	5 33.632	+ 0 13.00	+ 2.503
	Victoria	- -	20.0	- -	33 20.05	5 31.129		
	Weisse VII, 756	25.0	38.0	- -	36 38.05	5 33.520	+ 0 12.60	+ 2.035
	Victoria	-	50.6	3.0	36 50.65	5 31.485		
	Weisse VII, 756	1.9	15.0	- -	38 15.05	5 33.638	+ 0 12.20	+ 2.156
	Victoria	- -	27.2	- -	38 27.25	5 31.482		
4	Victoria	27.1	39.0	51.0	7 26 39.03	2 26.282		
	Weisse VII, 756	2.0	15.0	27.0	27 14.67	3 25.551	− 0 35.64	+ 12.262
	Victoria	40.9	53.2	5.7	29 53.27	2 26.089		
	Weisse VII, 756	16.0	29.1	41.0	30 28.70	3 25.719	− 0 35.43	+ 12.623
	Victoria	54.0	-	19.0	34 6.50	2 26.095		
	Weisse VII, 756	29.1	42.2	54.3	34 41.87	3 25.668	− 0 35.37	+ 12.566
	Victoria	36.2	49.0	- -	36 48.81	2 26.050		
	Weisse VII, 756	- -	24.0	36.4	37 23.81	3 25.690	− 0 35.00	+ 12.633
8	Weisse VII, 551	25.1	37.2	49.2	8 46 37.16	4 43.973	+ 2 31 84	− 13.181
	Victoria	57.0	9.0	21.0	49 9.00	3 43.708		
	Weisse VII, 551	54.2	6.8	19.3	52 6.77	4 44.071	+ 2 31.49	− 13.219
	Victoria	26.2	38.0	50.6	54 38.26	3 43.768		
	Weisse VII, 551	11.2	23.2	36.7	56 23.70	4 43.991	+ 2 30.73	− 13.407
	Victoria	42.0	54.3	7.0	58 54.43	3 43.500		
	Weisse VII, 551	13.2	25.0	37.8	9 0 25.33	4 43.910	+ 2 31.85	− 13.071
	Victoria	-	57.0	9.0	2 57.18	3 43.755		
	Weisse VII, 551	15.7	27.7	40.0	4 27.80	4 43.772	+ 2 31.53	− 13.070
	Victoria	47.0	59.0	12.0	6 59.33	3 43.618		
	Weisse VII, 551	3.2	15.6	28.1	9 15.63	4 43.684	+ 2 31.37	− 13.097
	Victoria	35.0	47.0	59.0	11 47.00	3 43.503		
Mar. 3	Victoria	32.0	46.0	1.2	7 42 46.40	3 22.120		
	Weisse VII, 320	- -	19.2	33.8	43 19.19	3 31.722	− 0 32.79	+ 9.602
	Victoria	4.0	18.0	- -	54 17.99	3 22.255		
	Weisse VII, 320	36.0	50.9	5.2	54 50.70	3 31.690	− 0 32.71	+ 9.435
	Victoria	- -	34 2	49.0	57 34.19	3 22.105		
	Weisse VII, 320	52.5	7.0	21.0	58 6.83	3 31.690	− 0 32.64	+ 9.585

RESULTS.

Corr. Chron. + 0 m. s. 56.93

	α (h. m. s.)	δ (° ′ ″)
Weisse VII, 756,	7 24 31.25	+10 43 54.92

Victoria—Weisse VII, 756,

		Δα (m. s.)	Δδ (′ ″)
M. T.	8 6 59.29	+ 0 13.83	+ 0 29.95
	Δt	+ .04	
	Δϱ	.00	+ .01
	p	− .14	+ 2.20

Corr. Chron. + 0 m. s. 57.73

	α (h. m. s.)	δ (° ′ ″)
Weisse VII, 756,	7 24 31.25	+10 43 54.89

Victoria—Weisse VII, 756,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 32 49.63	− 0 35.36	+ 3 12.45
	Δt	− .09	
	Δϱ	.00	+ .08
	p	− .16	+ 2.24

Corr. Chron. + 0 m. s. 59.86

	α (h. m. s.)	δ (° ′ ″)
Weisse VII, 551,	7 18 18.77	+10 53 47.23

Victoria—Weisse VII, 551,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 1 44.06	+ 2 31.47	− 3 22.48
	Δt	+ .41	
	Δϱ	.00	− .07
	p	− .06	+ 2.06

Corr. Chron. − 0 m. s. 5.24

	α (h. m. s.)	δ (° ′ ″)
Weisse VII, 320,	7 10 43.35	+12 6 18.63

Victoria—Weisse VII, 320,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 51 27.62	− 0 32.71	+ 2 26.64
	Δt	− .09	
	Δϱ	.00	+ .05
	p	− .03	+ 1.76

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 7	Victoria	40.2	54.0	9.0	8 3 54.40	1 44.501		
	Weisse VII, 320	28.0	42.4	57.0	4 42.47	5 35.825	− 0 48.07	+ 51.449
	Victoria	41.3	56.0	10.2	6 55.83	1 44.368		
	Weisse VII, 320	29.5	44.1	58.2	7 43.93	5 35.898	− 0 48.10	+ 51.655
	Victoria	29.1	43.2	58.0	10 43.43	1 44.380		
	Weisse VII, 320	16.8	31.2	46.0	11 31.33	5 35.918	− 0 47.90	+ 51.663
	Victoria	2.0	16.2	31.2	14 16.47	1 44.320		
	Weisse VII, 320	50.1	4.6	19.2	15 4.63	5 36.001	− 0 48.16	+ 51.806
10	Victoria	40.0	55.0	12.0	8 16 55.67	3 31.148		
	Weisse VII, 368	10.0	24.6	39.2	19 24.60	3 37.512	− 2 28.93	+ 6.364
	Victoria	11.0	25.5	39.5	22 25.33	3 31.002		
	Weisse VII, 368	39.5	54.2	9.1	24 54.26	3 37.548	− 2 28.93	+ 6.546
	Victoria	15.2	29.1	- -	27 29.05	3 31.155		
	Weisse VII, 368	44.0	59.0	13.0	29 58.67	3 37.528	− 2 29.62	+ 6.373
	Victoria	18.2	32.5	47.0	31 32.57	3 30.702		
	Weisse VII, 368	47.0	2.0	17.0	34 2.00	3 37.480	− 2 29.43	+ 6.778
	Victoria	2.0	17.0	-	36 16.95	3 30.985		
	Weisse VII, 368	31.0	45.0	59.2	38 45.07	3 37.568	− 2 28.12	+ 6.583
18	Weisse VII, 319	29.2	44.0	-	7 25 44.00	5 37.308	+ 0 40.00	+ 42.200
	Victoria	- -	24 0	- -	26 24.00	2 38.162		
	Weisse VII, 319	0.9	15.2	30.0	31 15.37	5 37.249	+ 0 39.63	+ 42.142
	Victoria	- -	55.0	- -	31 55.00	2 38.161		
	Weisse VII, 319	23.0	38.0	52.5	34 37.83	5 37.256	+ 0 39.17	+ 42.237
	Victoria	- -	17.0	- -	35 17.00	2 38.073		
	Weisse VII, 319	39.2	54.2	9.0	36 54.13	5 37.252	+ 0 39.07	+ 42.166
	Victoria		33.2	- -	37 33.20	2 38.140		
	Weisse VII, 319	57.3	12.0	27.0	39 12.10	5 37.197	+ 0 39.90	+ 42.232
	Victoria	- -	52.0	- -	39 52.00	2 38.019		
Apr. 15	Weisse VII, 816	24.0	39.0	54.0	10 40 39.00	5 35.330	+ 0 42.87	+ 11.282
	Victoria	- -	21.6	36.0	41 21.87	5 24.048		
	Weisse VII, 816	55.0	9.0	25.0	42 9.67	5 35.138	+ 0 42.33	+ 10.335
	Victoria	37.0	52.0	7.0	42 52.00	4 41.948		
	Weisse VII, 816	12.5	27.0	42.0	43 27.17	5 35.062	+ 0 42.83	+ 10.832
	Victoria	56.0	- -	24.0	44 10.00	5 24.230		
	Weisse VII, 816	42.5	56.0	11.0	47 56.50	5 34.948	+ 0 42.83	+ 10.243
	Victoria	25.0	39.0	54.0	48 39.33	4 41.850		
16	Weisse VII, 816	55.2	9.0	24.0	8 19 9.40	4 48.618	+ 1 28.64	+ 12.358
	Victoria	24.0	38.0	- -	20 38.04	4 36.260		
	Weisse VII, 816	41.0	56.0	10.2	23 55.73	4 48.458	+ 1 28.31	+ 12.396
	Victoria	- -	24.0	-	25 24.04	4 36.062		
	Weisse VII, 816	2.5	17.5	32.0	32 17.33	4 48.310	+ 1 28.67	+ 12.032
	Victoria	31.0	46.0	1.0	33 46.00	4 36.278		
	Weisse VII, 816	10.0	25.2	40.0	38 25.07	2 44.319	+ 1 29.26	+ 12.479
	Victoria	39.5	54.0	9.5	39 54.33	2 31.840		

RESULTS.

m. s.
Corr. Chron + 0 6.08

	α	δ
	h. m. s.	° ′ ″
Weisse VII, 320,	7 10 43.30	+ 12 6 18.63

Victoria—Weisse VII, 320,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 9 3.61	− 0 48.06	+ 13 13.73
	Δt	− .13	
	Δρ	.00	+ .28
	p	.00	+ 1.71

m. s.
Corr. Chron. + 0 3.48

	α	δ
	h. m. s.	° ′ ″
Weisse VII, 368,	7 12 30.53	+ 12 25 35.85

Victoria—Weisse VII, 368,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 26 59.39	− 2 29.01	+ 1 40.35
	Δt	− .41	
	Δρ	.00	+ .04
	p	+ .03	+ 1.68

m. s.
Corr. Chron. + 0 1.57

	α	δ
	h. m. s.	° ′ ″
Weisse VII, 319,	7 10 42.37	+ 12 34 53.99

Victoria—Weisse VII, 319,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 34 13.81	+ 0 39.55	+ 10 48.54
	Δt	+ .11	
	Δρ	.00	+ .22
	p	+ .01	+ 1.62

m. s.
Corr. Chron. − 0 6.12

	α	δ
	h. m. s.	° ′ ″
Weisse VII, 816,	7 26 37.28	+ 13 19 43.95

Victoria—Weisse VII, 816,

		Δα	Δδ
	h. m. s.	m. s	′ ″
M. T.	10 44 9.68	+ 0 42.72	− 2 44.04
	Δt	+ .11	
	Δρ	+ .01	+ .15
	p	+ .16	+ 1.74

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1852. Apr. 16	Weisse VII, 816	57.0	12.0	27.0	8 45 12.00	2 44.451	+ 1 30.00	+ 12.272
	Victoria	27.0	42.0	57.0	46 42.00	2 32.179		
	Weisse VII, 816	29.2	44.1	59.1	50 44.13	2 44.391	+ 1 29.41	+ 12.303
	Victoria	59.0	13.5	- -	52 13.54	2 32.088		
	Weisse VII, 816	50 0	5.0	19.6	57 4.87	2 44.510	+ 1 29.80	+ 12.661
	Victoria	20.0	35.0	49.0	58 34.67	2 31.849		
	Weisse VII, 816	54.2	9.2	23.6	9 3 9.00	2 44.410	+ 1 29.33	+ 12.438
	Victoria	24.0	38.0	53.0	4 38.33	2 31.972		
	Weisse VII, 816	56.7	11.2	26.0	8 11.30	2 44.249	+ 1 30.74	+ 12.309
	Victoria	27.0	42.0	- -	9 42.04	2 31.940		
23	Weisse VII, 1053	21.0	- -	51.0	9 32 36.00	1 44.539	+ 0 14.25	— 46.359
	Victoria	35.5	- -	5.0	32 50.25	4 47.918		
	Weisse VII, 1053	27.5	- -	56.5	36 42.00	1 44.650	+ 0 14.00	— 45.971
	Victoria	41.0	.	11.0	36 56.00	4 47.641		
	Weisse VII, 1053	53.0	- -	22.5	41 7.75	1 44.650	+ 0 14.00	— 46.030
	Victoria	7.5	- -	36.0	41 21.75	4 47.700		
	Weisse VII, 1053	39.2	- -	9.0	44 54.10	1 44.591	+ 0 14.00	— 46.007
	Victoria	53.2	- -	23.0	45 8.10	4 47.618		
	Weisse VII, 1053	24.0	.	53.5	48 38.75	1 44.660	+ 0 14.35	— 46.299
	Victoria	38.2	- -	8.0	48 53.10	4 47.979		
	Weisse VII, 1053	45.0	- -	- -	10 6 59.82	1 44.278	+ 0 14.68	— 46.104
	Victoria	- -	14.0	29.0	7 14.50	4 47.402		
	Weisse VII, 1053	28.0	- -	57.0	9 42.50	1 44.110	+ 0 15.00	— 46.140
	Victoria	43.0	- -	12.0	9 57.50	4 47.270		
	Weisse VII, 1053	31.0	- -	0.0	12 45.50	1 44.092	+ 0 15.50	— 46.300
	Victoria	46.0	- -	16.0	13 1.00	4 47.412		
24	Weisse VII, 1053	10.4	25.5	40.0	9 41 25.30	1 48.055	+ 1 10.70	— 46.985
	Victoria	21.0	36.0	51.0	42 36.00	4 52.060		
	Weisse VII, 1053	20.2	35.0	49.0	44 34.73	1 47.958	+ 1 11.27	— 47.244
	Victoria	31.0	46.0	1.0	45 46.00	4 52.222		
	Weisse VII, 1053	43.0	57.2	12.5	46 57.57	1 47.931	+ 1 11.10	— 47.214
	Victoria	54.0	9.0	23.0	48 8.67	4 52.165		
	Weisse VII, 1053	29.2	43.5	58.5	49 43.73	1 47.870	+ 1 11.27	— 46.880
	Victoria	41.0	55.0	9.0	50 55.00	4 51.770		
25	Weisse VII, 1053	44.6	59.2	14.0	8 38 59.26	1 42.602	+ 2 6.74	— 47.878
	Victoria	. .	6.0	- -	41 6.00	4 47.500		
	Weisse VII, 1053	24.4	39.2	53.5	44 39.03	1 42.532	+ 2 7.13	— 48.248
	Victoria	31.5	46.0	1.0	46 46.16	4 47.800		
	Weisse VII, 1053	45.2	59.3	14.0	47 59 50	1 42.485	+ 2 6.67	— 48.207
	Victoria	51.5	6.0	21.0	50 6.17	4 47.712		
	Weisse VII, 1053	37.2	51.6	6.2	51 51.67	1 42.712	+ 2 7.00	— 47.608
	Victoria	44.0	58.0	14.0	53 58.67	4 47.340		

RESULTS.

Corr. Chron. — 0 m. s. 6.93

Weisse VII, 816, a = 7 h. 26 m. 37.26 s., δ = +13° 19′ 43.96″

Victoria—Weisse VII, 816,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 h. 45 m. 36.60 s.	+ 1 29.35	+ 3 9.98
	Δt	+ .24	
	Δϱ	.00	+ .08
	p	+ .12	+ 1.40

Corr. Chron. — 0 m. s. 12.50

Weisse VII, 1053, a = 7 h. 34 m. 10.27 s., δ = +13° 35′ 13.02″

Victoria—Weisse VII, 1053,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 h. 51 m. 42.78 s.	+ 0 14.47	—11 49.32
	Δt	+ .04	
	Δϱ	— .02	— .48
	p	+ .15	+ 1.60

Corr. Chron. — 0 m. s. 12.58

Weisse VII, 1053, a = 7 h. 34 m. 10.26 s., δ = 13° 35′ 13.05″

Victoria—Weisse VII, 1053,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 h. 46 m. 38.84 s.	+ 1 11.08	—12 3.62
	Δt	+ .17	
	Δϱ	— .02	— .48
	p	+ .14	+ 1.59

Corr. Chron. — 0 m. s. 13.17

Weisse VII, 1053, a = 7 h. 34 m. 10.25 s., δ = +13° 35′ 13.08″

Victoria—Weisse VII, 1053,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 h. 52 m. 28.12 s.	+ 2 6.96	—12 16.51
	Δt	+ .34	
	Δϱ	— .01	— .35
	p	+ .13	+ 1.49

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 25	Weisse VII, 1053	54.0	7.5	22.6	8 58 8.03	1 42.689	+ 2 7.14	— 47.670	
	Victoria	1.5	15.0	29.0	9 0 15.17	4 47.379			
	Weisse VII, 1053	34.0	48.5	3.0	1 48.50	1 42.629	+ 2 7.10	— 47.911	
	Victoria	41.0	55.6		3 55.60	4 47.560			
27	Victoria	26.5		56.0	8 12 41.25	2 37.222			
	2282, Rumker	14.0	28.0	43.0	13 28.33	5 38.852	— 0 47.08	+ 44.684	Corr. Chron. — 0 14.83 (m. s.)
	Victoria	7.0	21.0	35.5	16 21.17	2 37.250			
	2282, Rumker	53.5	8.2	22.5	17 8.07	5 39.010	— 0 46.90	+ 44.814	2282, Rumker, α 7 h. 39 m. 1.45 s. δ +13° 10′ 37″.85
	Victoria	35.5	49.5	5.0	18 50.00	2 37.118			
	2282, Rumker	22.0	37.5	51.5	19 37.00	5 38.775	— 0 47.00	+ 44.711	Victoria—2282 Rumker,
	Victoria	26.2	41.0	55.5	21 40.90	2 37.072			
	2282, Rumker	13.0	27.5	41.9	22 27.47	5 38.772	— 0 46.57	+ 44.754	M. T. 8 h. 19 m. 56.91 s. Δα — 0 m. 46.87 s. Δδ +10′ 55″.93
	Victoria	26.0	40.2	55.0	24 40.40	2 37.169			Δt — .12
	2282, Rumker	12.9	27.0	42.0	25 27.30	5 38.548	— 0 46.90	+ 44.433	Δρ .00 + .28; p + .11 + 1.43
	Victoria	42.0	56.2	12.0	26 56.73	2 37.130			
	2282, Rumker	28.5	44.0	58.0	27 43.50	5 38.742	— 0 46.77	+ 44.666	

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.		COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.		revs.	m. s.	revs.
Jan. 12	Weisse XXIII, 48	37.2	49.0	1.0	6 31 49.07	1	47.111	+ 1 43.05	— 29.815
	Encke's Comet	.	32.0	45.0	33 32.12	3	46.862		
	Weisse XXIII, 111	.	35.0	47.0	34 35.12	1	49.069	— 1 3.00	— 27.857
	Weisse XXIII, 48	30.5	42.0	54.5	40 42.33	1	47.195	+ 1 46.79	— 28.144
	Encke's Comet	.	29.0	41.0	42 29.12	3	45.275		
	Weisse XXIII, 111	.	28.0	40.0	43 28.12	1	49.042	— 0 59.00	— 26.297
	Weisse XXIII, 48	20.2	32.0	45.0	48 32.40	1	47.081	+ 1 44.72	— 26.593
	Encke's Comet	.	17.0	31.0	50 17.12	3	43.610		
	Weisse XXIII, 111	5.0	18.0	29.0	51 17.33	1	49.105	— 1 0.21	— 24.569
	Weisse XXIII, 48	19.4	31.0	44.0	59 31.47	1	46.812	+ 1 47.53	— 26.090
	Encke's Comet	7.0	19.0	31.0	7 1 19.00	3	42.838		
	Weisse XXIII, 111	.	17.0	29.0	2 17.12	1	48.805	— 0 58.12	— 24.097
14	Weisse XXIII, 111	54.2	6.5	19.2	6 30 6.63	4	46.061	+ 1 19.70	+ 12.447
	Encke's Comet	14.0	27.0	38.0	31 26.33	3	45.592		
	Weisse XXIII, 111	25.2	37.0	49.0	34 37.07	4	46.019	+ 1 19.60	+ 12.348
	Encke's Comet	44.0	57.0	9.0	35 56.67	3	45.451		
	Weisse XXIII, 111	6.0	18.2	30.5	37 18.23	4	45.995	+ 1 19.87	+ 12.551
	Encke's Comet	25 0	38.3	51.0	38 38.10	3	45.630		
	Weisse XXIII, 111	21.2	33.2	46.2	41 33.53	4	45.920	+ 1 18.30	+ 12.686
	Encke's Comet	38.0	.	4.5	42 51.83	3	45.690		
	Weisse XXIII, 111	37.5	50.2	2.0	44 49.90	4	45.859	+ 1 19.90	+ 12.495
	Encke's Comet	57.0	10.4	22.0	46 9.80	3	45.438		
	Weisse XXIII, 111	21.0	33.5	45.5	47 33.33	4	45.719	+ 1 20.50	+ 12.575
	Encke's Comet	41.5	54.0	6.0	48 53.83	3	45.378		
19	8127, B. A. C.	21.5	34.0	46.0	6 34 33.83	5	38.495	+ 1 22.17	+ 43.059
	Encke's Comet	44.0	56.0	8.0	35 56.00	2	38.490		
	8127, B. A. C.	58.1	10.2	22.0	41 10.10	5	38.371	+ 1 20.80	+ 41.980
	Encke's Comet	18.0	31.0	.	42 30.90	2	39.445		
	8127, B. A. C.	40.9	52.5	5.0	52 52.80	5	38.152	+ 1 21.60	+ 42.246
	Encke's Comet	.	14.1	.	54 14.40	2	38.960		
	8127, B. A. C.	42.0	54.5	6.0	56 54.17	5	38.405	+ 1 20.50	+ 42.050
	Encke's Comet	.	15.0	.	58 14.67	2	39.419		
22	Weisse XXIII, 359	13.0	25.2	.	6 41 25.20	1	43.762	+ 0 22.80	— 34.687
	Encke's Comet	.	48.0	1.7	41 48.00	3	48.385		
	Weisse XXIII, 359	15.0	27.5	.	48 27.50	1	43.810	+ 0 23.50	— 34.603
	Encke's Comet	.	51.0	.	48 51.00	3	48.349		
	Weisse XXIII, 359	11.0	23.0	.	52 23.00	1	44.068	+ 0 24.00	— 33.971
	Encke's Comet	.	47.0	.	52 47.00	3	47.975		
	Weisse XXIII, 359	14.2	26.0	.	56 26.00	1	43.691	+ 0 24.30	— 33.761
	Encke's Comet	.	50.3	.	56 50.30	3	47.388		
	Weisse XXIII, 359	51.0	3.0	.	59 3.00	1	43.781	+ 0 26.00	— 33.238
	Encke's Comet	.	29.0	.	6 59 29.00	3	46.955		
	Weisse XXIII, 359	19.5	32.3	.	7 7 32.30	1	43.729	+ 0 25.70	— 33.520
	Encke's Comet	.	58.0	.	7 58.00	3	47.185		

RESULTS.

Corr. Chron + 0 m. s. 23.69

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 48,	23 3 41.14	+ 4 11 59.69
Weisse XXIII, 111,	23 6 27.62	+ 4 11 27.35

Comet—Weisse XXIII, 48,

			Δα	Δδ
	h. m. s.		m. s.	′ ″
M. T.	6 47 18.03		+ 1 45 52	— 7 5 14
		Δt	+ .28	
		Δϱ	— .01	— .24
		p	+ .21	+ 3.24

Comet—Weisse XXIII, 111,

	h. m. s.		m. s.	′ ″
M. T.	6 47 18.03		— 1 0.08	— 6 35.08
		Δt	— .16	
		Δϱ	— .07	— .22
		p	+ .21	+ 3.24

Corr. Chron. + 0 m. s. 28.52

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 111,	23 6 27 60	+ 4 11 27.18

Comet—Weisse XXIII, 111,

			Δα	Δδ
	h. m. s.		m. s.	′ ″
M. T.	6 41 7.95		+ 1 19.65	+ 3 12.38
		Δt	+ .21	
		Δϱ	+ .01	+ .11
		p	+ .21	+ 3.25

Corr. Chron. + 0 m. s. 30.48

	α	δ
	h m. s.	° ′ ″
8127, B. A. C.	23 12 46.59	+ 4 34 20.23

Comet—8127, B. A. C.

			Δα	Δδ
	h. m. s.		m. s.	′ ″
M. T.	6 48 14 47		+ 1 21.27	+10 50.66
		Δt	+ .22	
		Δϱ	+ .01	+ .38
		p	+ .23	+ 3.25

Corr. Chron. + 0 m. s. 42.24

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 359,	23 17 48.02	+ 5 13 35.07

Comet—Weisse XXIII, 359,

			Δα	Δδ
	h. m. s.		m. s.	′ ″
M. T.	6 55 19.46		+ 0 24.38	— 8 42.00
		Δt	+ .07	
		Δϱ	— .01	— .35
		p	+ .24	+ 3.32

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 23	Encke's Comet	- -	38. 0	- -	6 32 38. 00	3 32. 548		
	1633, Santini	35. 0	47. 0	59. 0	33 47. 00	2 32. 489	— 1 9. 00	— 13. 052
	Encke's Comet	- -	32. 0	- -	37 32. 00	4 20. 491		
	1633, Santini	- -	38. 0	50. 0	38 38. 00	3 19. 655	— 1 6. 00	— 13. 829
	Encke's Comet	- -	57. 0	- -	42 57. 00	3 33. 680		
	1633, Santini	50. 5	3. 0	15. 0	44 3. 00	2 32. 344	— 1 6. 00	— 14. 329
	Encke's Comet	- -	6. 0	-	48 6. 00	3 34. 788		
	1633, Santini	59. 5	11. 8	24. 0	49 11. 80	2 32. 275	— 1 5. 80	— 15. 506
	Encke's Comet	- -	44. 0	- -	52 44. 00	3 34. 220		
	1633, Santini	38. 0	50. 2	2. 0	53 50. 20	2 32. 368	— 1 6. 20	— 14. 845
24	1633, Santini	35. 2	48. 0	- -	6 28 48. 00	3 47. 761	+ 0 19. 50	+ 13. 232
	Encke's Comet	- -	7. 5	19. 0	29 7. 50	2 47. 522		
	1633, Santini	26. 2	38. 0	-	31 38. 00	3 47. 665	+ 0 19. 00	+ 13. 206
	Encke's Comet	- -	57. 0	- -	31 57. 00	2 47. 452		
	1633, Santini	28. 1	41. 0	- -	34 41. 00	3 47. 375	+ 0 18. 20	+ 13. 129
	Encke's Comet	- -	59. 2	- -	34 59. 20	2 47. 239		
	1633, Santini	19. 1	31. 8	- -	38 31. 80	3 47. 629	+ 0 19. 20	+ 13. 519
	Encke's Comet	- -	51. 0	- -	38 51. 00	2 47. 103		
	1633, Santini	13. 8	26. 0	- -	42 26. 00	3 47. 578	+ 0 20. 50	+ 13. 322
	Encke's Comet	- -	46. 5	- -	42 46. 50	2 47. 249		
	1633, Santini	55. 0	7. 8	- -	46 7. 80	3 47. 445	+ 0 20. 00	+ 13. 418
	Encke's Comet	- -	27. 8	- -	46 27. 80	2 47. 020		
	1633, Santini	27. 5	39. 2	- -	49 39. 20	3 47. 088	+ 0 21. 60	+ 13. 231
	Encke's Comet	- -	0. 8	- -	50 0. 80	2 46. 850		
	1633, Santini	56. 0	9. 1	- -	52 9. 10	3 47. 452	+ 0 20. 40	+ 13. 503
	Encke's Comet	- -	29. 5	- -	52 29. 50	2 46. 942		
25	1635, Santini	59. 0	11. 2	23. 6	6 26 11. 27	4 41. 325	+ 0 32. 39	+ 35. 982
	Encke's Comet	-	- -	56. 0	26 43. 66	2 31. 252		
	1635, Santini	25. 5	38. 0	50. 5	32 38. 00	4 41. 371	+ 0 34. 14	+ 35. 835
	Encke's Comet	- -	12. 0	- -	33 12. 14	2 31. 445		
	1635, Santini	8. 5	20. 2	33. 0	39 20. 57	4 41. 170	+ 0 30. 57	+ 35. 599
	Encke's Comet	- -	51. 0	5. 0	39 51. 14	2 31. 480		
	1635, Santini	2. 0	14. 0	27. 0	42 14. 33	4 41. 120	+ 0 31. 81	+ 35. 706
	Encke's Comet	- -	46. 0	- -	42 46. 14	2 31. 323		
	1635, Santini	46. 0	58. 0	10. 2	46 58. 07	4 41. 305	+ 0 31. 07	+ 35 474
	Encke's Comet	- -	29. 0	42. 0	47 29. 14	2 31. 740		
	1635, Santini	36. 0	48. 2	1. 0	51 48. 40	4 41. 160	+ 0 32. 26	+ 35. 584
	Encke's Comet	- -	- -	33. 0	52 20. 66	2 31. 485		
	1635, Santini	4. 0	16. 0	29. 0	56 16. 33	4 40. 989	+ 0 31. 81	+ 35. 370
	Encke's Comet	- -	48. 0	- -	56 48. 14	2 31. 528		
	1635, Santini	23. 2	35. 0	48. 0	59 35. 40	4 41. 171	+ 0 32. 24	+ 35. 830
	Encke's Comet	- -	7. 5	- -	7 0 7. 64	2 31. 250		
	1635, Santini	58. 1	11. 0	23. 0	2 10. 70	4 40. 930	+ 0 32. 90	+ 35. 367
	Encke's Comet	-	43. 5	- -	2 43. 60	2 31. 472		
	1635, Santini	14. 2	27. 0	39. 0	8 26. 73	4 40. 810	+ 0 32 93	+ 35. 780
	Encke's Comet	-	-	12. 0	8 59. 66	2 30. 939		

RESULTS.

Corr. Chron. + 0 m. s. 46. 26

	α	δ
	h. m. s.	° ′ ″
1633, Santini,	23 20 42. 60	+ 5 15 32. 89

Comet—1633, Santini,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 43 33. 76	— 1 6. 60	— 3 39. 97
	Δt	— . 17	
	Δϱ	. 00	— . 14
	p	+ . 24	+ 3. 31

Corr. Chron. + 0 m. s. 49. 58

	α	δ
	h. m. s.	° ′ ″
1633, Santini,	23 20 42. 58	+ 5 15 32. 79

Comet—1633, Santini,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 41 39. 49	+ 0 19. 80	+ 3 24. 72
	Δt	+ . 05	
	Δϱ	. 00	+ . 13
	p	+ . 24	+ 3. 33

Corr. Chron. + 0 m. s. 51. 42

	α	δ
	h. m. s.	° ′ ″
1635, Santini,	23 21 58. 65	+ 5 17 10. 45

Comet—1635, Santini,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 49 57. 61	+ 0 32. 21	+ 9 7. 97
	Δt	+ . 08	
	Δϱ	+ . 02	+ . 40
	p	+ . 26	+ 3. 37

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 26	Weisse XXIII, 458	46.0	57.8	11.0	6 56 57.95	1 37.252	+ 1 11.05	− 10.820
	Encke's Comet	56.0	9.0	22.0	58 9.00	2 31.001		
	Weisse XXIII, 458	15.0	27.0	39.0	7 0 27.00	1 37.141	+ 1 12.15	− 10.162
	Encke's Comet	26.0	39.0	. .	1 39.15	2 30.232		
	Weisse XXIII, 458	55.8	8.2	21.0	3 8.33	1 36.660	+ 1 11.34	− 10.611
	Encke's Comet	7.0	19.0	33.0	4 19.67	2 30.200		
27	Weisse XXIII, 458	49.2	2.0	15.0	6 28 2.07	2 39.072	+ 2 38.96	+ 17.093
	Encke's Comet	28.1	41.0	55.0	30 41.03	1 39.050		
	Weisse XXIII, 458	54.3	7.1	19.2	32 6.87	2 38.972	+ 2 38.96	+ 16.948
	Encke's Comet	33.0	45.5	59.0	34 45.83	1 39.095		
	Weisse XXIII, 458	8.8	21.7	34.1	36 21.53	2 39.105	+ 2 38 84	+ 17.666
	Encke's Comet	47.0	1.0	13.0	39 0.37	1 38.510		
	Weisse XXIII, 458	16.0	28.0	40.7	40 28 23	2 39.041	+ 2 38.20	+ 17.623
	Encke's Comet	55.0	7.5	. .	43 6.43	1 38 489		
	Weisse XXIII, 458	29.1	41.0	53.2	44 41.10	2 38.850	+ 2 40.27	+ 17.451
	Encke's Comet	. .	. .	34.0	47 21.37	1 38.470		
	Weisse XXIII, 458	10.2	23.0	35.1	49 22.77	2 38.798	+ 2 39.86	+ 17.999
	Encke's Comet	50.0	2.7	.	52 2.63	1 37.870		
Feb. 2	1649, Santini	45.5	57.8	10.0	6 29 57.77	2 39.998	+ 0 34.75	+ 11.418
	Encke's Comet	. .	32.5	45.1	30 32.52	1 45.651		
	1649, Santini	53.1	5.6	18.0	33 5.57	2 39.830	+ 0 35.10	+ 11.882
	Encke's Comet	28.0	41.0	53.0	33 40.67	1 45.079		
	1649, Santini	17.2	29.2	42.5	36 29.63	2 39.759	+ 0 35.47	+ 11.535
	Encke's Comet	52.0	5.2	18.1	37 5.10	1 45.295		
	1649, Santini	29.2	41.0	53.3	39 41.17	2 39.733	+ 0 34.85	+ 11.954
	Encke's Comet	. .	16.0	29.3	40 16.02	1 44.850		
	1649, Santini	0.8	13.2	26.0	43 13.33	2 39.639	+ 0 35.34	+ 11.951
	Encke's Comet	36.2	48.5	1.3	43 48.67	1 44.760		
	1649, Santini	44.3	56.1	8.8	45 56.40	2 39.548	+ 0 35.57	+ 12.036
	Encke's Comet	19.6	32.0	44.3	46 31.97	1 44.583		
	1649, Santini	9.5	21.6	33.0	49 21.37	2 39.460	+ 0 36.10	+ 12 186
	Encke's Comet	45.0	57.2	10.2	49 57.47	1 44.345		
	1649, Santini	14.2	26.0	38.1	53 26.10	2 39.481	+ 0 35.63	+ 12.532
	Encke's Comet	49.0	1.7	14.5	54 1.73	1 44.020		
	1649, Santini	1.3	13.0	25.0	56 13.10	2 39.212	+ 0 36.10	+ 12.141
	Encke's Comet	37.1	49.2	1.3	56 49.20	1 44.142		
	1649, Santini	58.7	11.0	23.2	7 0 10.97	2 39.069	+ 0 37.20	+ 12.398
	Encke's Comet	35.7	48.1	0.7	0 48.17	1 43.742		
	1649, Santini	48.2	1.0	13.2	4 0.80	2 38.858	+ 0 36.77	+ 12.819
	Encke's Comet	25.0	38.0	49.7	4 37.57	1 43.110		
	1649, Santini	42.0	54.0	6.9	6 54.30	2 38.850	+ 0 37.00	+ 12.654
	Encke's Comet	18.5	31.3	44.1	7 31.30	1 43.267		

RESULTS.

Corr. Chron. + 0 m. 52.34 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 458,	23 22 48.53	+ 5 36 30.60

Comet—Weisse XXIII, 458,

		△a (m. s.)	△δ (′ ″)
M. T.	7 2 14.95	+ 1 11.51	− 2 41.86
	Δt	+ .19	
	Δρ	.00	− .12
	p	+ .26	+ 3.38

Corr. Chron. + 0 m. 52.64 s.

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 458,	23 22 48.51	+ 5 36 30.50

Comet—Weisse XXIII, 458,

		△a (m. s.)	△δ (′ ″)
M. T.	6 42 2.25	+ 2 39.18	+ 4 28.41
	Δt	+ .44	
	Δρ	+ .01	+ .18
	p	+ .25	+ 3.37

Corr. Chron. + 0 m. 55.18 s.

	a (h. m. s.)	δ (° ′ ″)
1649, Santini,	23 34 22.74	+ 6 25 45.80

Comet—1649, Santini,

		△a (m. s.)	△δ (′ ″)
M. T.	6 53 27.65	+ 0 36.04	+ 3 6.74
	Δt	+ .10	
	Δρ	+ .01	+ .14
	p	+ .28	+ 3.49

(Continued.)

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 2	1649, Santini	19.3	31.8	44.0	7 12 31.70	2 38.720	+ 0 37.37	+ 12.491
	Encke's Comet	57.0	9.0	21.2	13 9.07	1 43.300		
	1649, Santini	55.8	8.0	19.8	16 7.87	2 38.520	+ 0 37.30	+ 12.105
	Encke's Comet	32.0	45.5	58.0	16 45.17	1 43.486		
3	1649, Santini	10.2	22.4	34.2	6 34 22.27	4 41.324	+ 2 14.06	+ 43.512
	Encke's Comet	24.0	36.0	49.0	36 36.33	1 40.792		
	1649, Santini	12.0	24.0	36.0	38 24.00	4 41.210	+ 2 14.44	+ 43.948
	Encke's Comet	26.0	38.4	. .	40 38.44	1 40.242		
	1649, Santini	18.2	30.4	43.0	42 30.53	4 41.001	+ 2 13.51	+ 43.900
	Encke's Comet	. .	44.0	57.0	44 44.04	1 40.081		
	1649, Santini	16.1	28.4	40.0	46 28.17	4 40.865	+ 2 15.16	+ 44.374
	Encke's Comet	31.0	43.0	56.0	48 43.33	1 39.471		
	1649, Santini	54.0	6.8	19.3	50 6.70	4 40.602	+ 2 14.63	+ 44.133
	Encke's Comet	9.0	21.0	34.0	52 21.33	1 39.449		
	1649, Santini	58.2	10.3	22.6	54 10.37	4 40.629	+ 2 15.90	+ 44.817
	Encke's Comet	14.1	26.5	38.2	56 26.27	1 38.792		
	1649, Santini	32.0	44.0	56.7	58 44.23	4 40.495	+ 2 15.34	+ 45.407
	Encke's Comet	47.0	59.7	12.0	7 0 59.57	1 38.068		
	1649, Santini	19.4	31.6	44.0	2 31.67	4 40.442	+ 2 16.10	+ 45.064
	Encke's Comet	35.6	47.7	0.0	4 47.77	1 38.358		
	1649, Santini	23.2	35.1	47.2	6 35.17	4 40.392	+ 2 14.92	+ 44.892
	Encke's Comet	. .	.	2.4	8 50.09	1 38.480		
	1649, Santini	37.2	49.3	1.2	10 49.23	4 39.780	+ 2 16.81	+ 44.718
	Encke's Comet	54.0	6.0	. .	13 6.04	1 38.042		
7	(* 26) W.	37.0	48.7	0.9	6 54 48.87	3 36.622	+ 0 39.04	− 24.628
	Encke's Comet	.	. .	39.0	55 27.91	5 31.189		
	(* 26) W.	26.0	38.0	50.0	7 0 38.00	3 36.451	+ 0 37.60	− 24.081
	Encke's Comet	. .	15.5	28.1	1 15.60	5 30.471		
	(* 26) W.	36.0	48.6	0.9	11 48.50	3 32.589	+ 0 39.03	− 24.111
	Encke's Comet	15.0	27.9	39.7	12 27.53	5 26.639		
	(* 26) W.	3.0	. .	28.0	13 15 50	3 32.732	+ 0 38.90	− 23.800
	Encke's Comet	.	54.3	7.0	13 54.40	5 26.471		
	(* 26) W.	10.0	22.0	34.0	19 22.00	3 32.195	+ 0 39.37	− 24.029
	Encke's Comet	49.0	1.0	14.1	20 1.37	5 26.163		
	(* 26) W.	58.0	10.0	23.0	21 10.33	3 32.188	+ 0 38.97	− 23.655
	Encke's Comet	.	49.2	2.0	21 49.30	5 25.782		
	(* 26) W.	23.0	35.0	47.0	25 35.00	3 31.938	+ 0 39.97	− 23.272
	Encke's Comet	2.7	15.2	27.0	26 14.97	5 25.149		
	(* 26) W.	23.2	36.0	48.0	31 35.73	3 31.626	+ 0 40.17	− 23.763
	Encke's Comet	. .	.	28.0	32 15.90	5 25.328		
	(* 26) W.	51.2	3.0	16.0	34 3.40	3 31.251	+ 0 40.57	− 23.450
	Encke's Comet	31.8	44.0	56.0	34 43.97	5 24.640		
	(* 26) W.	48.0	0.7	13.5	48 0.73	3 29.792	+ 0 41.18	− 23.891
	Encke's Comet	. .	. .	54.0	48 41.91	5 23.622		

RESULTS.

Corr. Chron. + 0 m. s. 56.93

	α h. m. s.	δ ° ′ ″
1649, Santini,	23 34 22.74	+ 6 25 45.70

Comet—1649, Santini,

		Δα m. s.	Δδ ′ ″
M. T.	6 55 40.25	+ 2 15.09	+11 23.58
	Δt +	.37	
	Δϱ +	.03	+ .54
	p +	.28	+ 3.53

Corr. Chron. + 0 m. s. 58.66

	α h. m. s.	δ ° ′ ″
(* 26) W.,	23 42 55.32	+ 7 17 24.47

Comet—(* 26) W.,

		Δα m. s.	Δδ ′ ″
M. T.	7 21 39.95	+ 0 39.48	− 6 6.84
	Δt +	.11	
	Δϱ −	.03	− .44
	p +	.31	+ 3.70

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 8	8272, B. A. C.	36.8	49.0	1.2	6 21 49.00	2 37.608	+ 4 37.07	− 23.011
	Encke's Comet	14.0	26.2	38.0	26 26.07	4 34.710		
	8272, B. A. C.	12.2	24.0	36.0	28 24.07	2 37.395	+ 4 37.36	− 22.789
	Encke's Comet	49.0	1.3	14.0	33 1.43	4 34.275		
	8272, B. A. C.	21.3	33.6	46.0	34 33.63	2 37.310	+ 4 38.20	− 22.341
	Encke's Comet	59.2	12.3	24.0	39 11.83	4 33.742		
	8272, B. A. C.	20.9	32.9	45.2	40 33.00	2 37.078	+ 4 38.83	− 22.700
	Encke's Comet	59.2	12.1	24.2	45 11.83	4 33.869		
	8272, B. A. C.	17.2	29.0	41.6	46 29.27	2 36.821	+ 4 39.63	− 22.468
	Encke's Comet	56.2	8.3	22.2	51 8.90	4 33.380		
	8272, B. A. C.	37 0	49.2	1.8	53 49.33	2 36.821	+ 4 40.07	− 22.177
	Encke's Comet	17.3	29.2	41.7	58 29.40	4 33.089		
	8272, B. A. C.	47.3	59.7	12.3	59 59.73	2 36.362	+ 4 40.50	− 21.279
	Encke's Comet	28.0	40.2	52.5	7 4 40.23	4 31.732		
9	Encke's Comet	11.0	23.0	36.0	6 36 23.33	1 43.019		
	1664, Santini	-	19.2	32.7	37 19.47	2 42.745	− 0 56.14	+ 16.797
	Encke's Comet	4.0	16.2	29.2	41 16.47	1 42.731		
	1664, Santini	- -	13.5	26.2	42 13.77	2 42.621	− 0 57.30	+ 16.960
	Encke's Comet	25.0	39.0	53.0	43 39.00	1 42.761		
	1664, Santini	24.0	36.0	48.2	44 36.07	2 42.563	− 0 57.00	+ 16.873
	Encke's Comet	44.2	58.0	13.0	45 58.40	1 42.512		
	1664, Santini	-	55.0	9.0	46 55.27	2 42.512	− 0 56.87	+ 17.071
	Encke's Comet	16.2	30.0	45.0	50 30.40	1 42.481		
	1664, Santini	13.0	27.2	39.2	51 26.47	2 42.408	− 0 56.07	+ 16.998
	Encke's Comet	33.1	-	2..0	53 47.50	1 42.365		
	1664, Santini	29.2	43.0	58.0	54 43.40	2 42.238	− 0 55.90	+ 16.944
	Encke's Comet	6.2	21.2	35.0	56 20.80	1 41.770		
	1664, Santini	-	17.0	32.0	57 17.09	2 42.069	− 0 56.29	+ 17.370
	Encke's Comet	14.2	28.2	42.9	7 1 28.43	1 41.500		
	1664, Santini	- -	24.0	38.0	2 24.09	2 41.673	− 0 55.66	+ 17.244
	Encke's Comet	21.2	36.0	50.0	5 35.73	1 41.600		
	1664, Santini	- -	31.0	45.5	6 31.09	2 41.665	− 0 55.36	+ 17.136
	Encke's Comet	13 0	27.1	42.0	9 27.37	1 40.919		
	1664, Santini	-	22.0	37.0	10 22.09	2 41.481	− 0 54.72	+ 17.633
	Encke's Comet	30.0	45.0	59.0	12 44.67	1 41.020		
	1664, Santini	26.0	40.7	54.9	13 40.53	2 41.280	− 0 55.86	+ 17.331
	Encke's Comet	13.2	28.0	42.2	15 27.80	1 40.629		
	1664, Santini	- -	23.1	37.0	16 23.19	2 41.070	− 0 55.39	+ 17.512
	Encke's Comet	49.2	3.5	19.0	18 3.90	1 40.281		
	1664, Santini	44.0	58.0	13.0	18 58.33	2 41.001	− 0 54.43	+ 17.791
12	Encke's Comet	59.2	13.2	28.0	6 36 13.47	4 43.591		
	1671, Santini	-	25.5	40.0	38 25.63	1 31.968	− 2 12.16	− 54.603
	Encke's Comet	9.3	24.0	38.3	44 23.87	4 43.008		
	1671, Santini	21.0	36.0	50.7	46 35.90	1 31.690	− 2 12.03	− 54.298
	Encke's Comet	51.3	5.2	20.0	49 5.50	4 43.025		
	1671, Santini	4.0	17.9	32.7	51 18.20	1 31.909	− 2 12.70	− 54.096

RESULTS.

Corr. Chron. + 0 m. s. 59.67

	α (h. m. s.)	δ (° ′ ″)
8272, B. A. C.	23 40 37.24	+ 7 25 19.06

Comet—8272, B. A. C.

	h. m. s.	△α (m. s.)	△δ (′ ″)
M. T.	6 46 26.77	+ 4 38.81	− 5 44.19
	Δt	+ .77	
	Δρ	− .01	− .28
	p	+ .30	+ 3.64

Corr. Chron. + 1 m. s. 0.18

	α (h. m. s.)	δ (° ′ ″)
1664, Santini,	23 48 2.03	7 23 51.04

Comet—1664, Santini,

	h. m. s.	△α (m. s.)	△δ (′ ″)
M. T.	6 58 45.09	− 0 55.92	+ 4 24.42
	Δt	− .15	
	Δρ	+ .01	+ .25
	p	+ .30	+ 3.70

Corr. Chron. + 0 m. s. 59.71

	α (h. m. s.)	δ (° ′ ″)
1671, Santini,	23 54 48.14	8 7 50.08

Comet—1671, Santini,

	h. m. s.	△α (m. s.)	△δ (′ ″)
M. T.	6 44 13.99	− 2 12.30	−13 55.06
	Δt	− .36	
	Δρ	− .03	− .67
	p	+ .31	+ 3.76

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 14	1671, Santini	1.0	15.3	29.8	6 34 15.37	3 36.711	+ 1 31.73	+ 10.183
	Encke's Comet	33.0	46.8	1.5	35 47.10	2 39.521		
	1671, Santini	38.9	53.2	7.5	37 53.20	3 36.708	+ 1 31.57	+ 10.700
	Encke's Comet	10.6	24.6	39.1	39 24.77	2 39.001		
	1671, Santini	56.0	10.2	25.0	41 10.40	3 36.610	+ 1 31.67	+ 10.734
	Encke's Comet	28.0	42.0	56.2	42 42.07	2 38.869		
	1671, Santini	27.2	40.9	55.5	44 41.20	3 36.492	+ 1 31.87	+ 10.643
	Encke's Comet	59.0	13.0	27.2	46 13.07	2 38.842		
	1671, Santini	5.0	18.7	33.0	47 18.90	3 36.468	+ 1 32.57	+ 10.942
	Encke's Comet	37.2	51.2	6.0	48 51.47	2 38.519		
	1671, Santini	10.2	23.8	38.5	51 24.17	3 36.210	+ 1 32.20	+ 10.693
	Encke's Comet	42.0	56.2	10.9	52 56.37	2 38.510		
	1671, Santini	10.2	25.2	39.1	54 24.83	3 36.153	+ 1 33.07	+ 10.676
	Encke's Comet	43.4	58.0	12.3	55 57.90	2 38.470		
	1671, Santini	54.6	9.2	24.1	57 9.30	3 35.910	+ 1 33.10	+ 10.803
	Encke's Comet	28.2	42.0	57.0	58 42.40	2 38.100		
	1671, Santini	36.0	50.4	5.0	59 50.47	3 35.880	+ 1 33.43	+ 10.873
	Encke's Comet	9.3	24.2	38.2	7 1 23.90	2 38.000		
	1671, Santini	40.0	54.5	9.0	3 54.50	3 35.725	+ 1 33.80	+ 11.066
	Encke's Comet	14.0	28.0	42.9	5 28.30	2 37.652		
	1671, Santini	32 1	46.0	1.0	6 46.37	3 35.533	+ 1 33.93	+ 11.176
	Encke's Comet	6.1	20.0	34.8	8 20.30	2 37.350		
	1671, Santini	48.0	2.0	17.3	10 2.43	3 35.340	+ 1 34.57	+ 10.915
	Encke's Comet	22.8	37.0	51.2	11 37.00	2 37.418		
17	Encke's Comet	20.2	35.5	49.0	6 39 34.90	1 51.352		
	8, Santini	-	41.0	55.0	41 40.40	5 51.288	− 2 5.50	+ 60.061
	Encke's Comet	53.2	8.1	21.5	43 7.60	1 51.389		
	8, Santini	58.4	13.0	28.0	45 13.13	5 51.161	− 2 5.53	+ 59.897
	Encke's Comet	24.4	39.0	53.2	59 38.57	1 50.031		
	8, Santini	28.0	43.0	58.0	7 1 43.00	5 50.451	− 2 4.13	+ 60.545
	Encke's Comet	20.8	35.2	49.1	3 35.03	1 49.690		
	8, Santini	24.0	39.2	53.5	5 38.90	5 50.226	− 2 3.87	+ 60.661
	Encke's Comet	33.2	47.6	1.5	7 47.43	1 49.619		
	8, Santini	36.5	50.8	5.8	9 51.03	5 49.929	− 2 3.60	+ 60.435
	Encke's Comet	29.2	44.0	57.5	11 43.57	1 49.078		
	8, Santini	32.9	47.0	1.0	13 46.97	5 49.780	− 2 3.40	+ 60.827
	Encke's Comet	58.5	13.0	28.0	16 13.17	1 49.035		
	8, Santini	1.9	16.0	30.5	18 16.13	5 49.330	− 2 2.96	+ 60.420
	Encke's Comet	38.1	52.2	7.0	19 52.43	1 48.348		
	8, Santini	40.5	55.0	9.5	21 55.00	5 49.190	− 2 2.57	+ 60.967
29	Encke's Comet	50.8	5.4	19.2	6 42 5.13	4 47.414		
	31, Santini	23.2	38.1	52.6	44 37.97	1 44.859	− 2 32.84	− 45.535
	Encke's Comet	45.2	59.4	14.1	45 59.57	4 47.345		
	31, Santini	17.4	31.6	47.0	48 32.00	1 44.710	− 2 32.43	− 45.615

RESULTS.

Corr. Chron. + 1 m. 2.60 s.

	a	δ
	h. m. s.	° ′ ″
1671, Santini,	23 54 48.14	+ 8 7 49.93

Comet—1671, Santini,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 54 59.65	+ 1 32.79	− 2 45.74
	Δt	+ .24	
	Δϱ	− .01	− .16
	p	+ .33	+ 3.89

Corr. Chron. + 1 m. 0.44 s.

	a	δ
	h. m. s.	° ′ ″
8, Santini,	0 4 10.41	+ 8 18 52.78

Comet—8, Santini,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 3 42.06	− 2 3.94	+15 29.51
	Δt	− .34	
	Δϱ	+ .06	+ 1.07
	p	+ .35	+ 4.06

(Continued.)

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 29	Encke's Comet	21.7	36.3	51.1	6 50 36.37	4 46.909		
	31, Santini	54.0	8.0	22.2	53 8.07	1 44.375	— 2 31.70	— 45.514
	Encke's Comet	30.2	44.6	59.2	54 44.67	4 46.675		
	31, Santini	1.9	16.4	31.0	57 16.43	1 44.041	— 2 31.76	— 45.614
	Encke's Comet	31.0	44.9	59.2	59 45.03	4 46.322		
	31, Santini	-	16.9	31.2	7 2 17.02	1 43.552	— 2 31.99	— 45.750
	Encke's Comet	34.0	48.3	3.0	3 48.43	4 45.938		
	31, Santini	5.2	19.3	34.2	6 19.57	1 43.278	— 2 31.14	— 45.640
	Encke's Comet	48.2	1.7	16.8	8 2.23	4 45.518		
	31, Santini	18.0	32.0	47.0	10 32.33	1 42.765	— 2 30.10	— 45.733
Mar. 1	Encke's Comet	14.2	28.9	43.2	6 46 28.77	5 39.398		
	31, Santini	22.1	37.0	50.5	47 36.53	1 34.148	— 1 7.76	— 65.375
	Encke's Comet	19.2	33.8	49.1	49 34.03	5 39.269		
	31, Santini	-	42.0	57.3	50 42.07	1 33.881	— 1 8.04	— 65.513
	Encke's Comet	39.0	53.0	8.0	55 53.33	5 38.912		
	31, Santini	-	-	15.9	57 1.26	1 33.392	— 1 7.93	— 65.645
	Encke's Comet	43.2	57.5	12.3	58 57.77	5 38.752		
	31, Santini	-	6.0	20.0	7 0 6.07	1 33.178	— 1 8.30	— 65.699
	Encke's Comet	51.0	5.0	18.9	2 4.97	5 38.327		
	31, Santini	-	13.6	27.3	3 13.67	1 32.787	— 1 8.70	— 65.665
	Encke's Comet	48.5	3.1	18.0	5 3.20	5 38.142		
	31, Santini	56.1	10.0	19.2	6 10.10	1 32.451	— 1 6.90	— 65.816
	Encke's Comet	53.2	7.5	22.4	8 7.70	5 37.810		
	31, Santini	-	14.3	29.2	9 14.37	1 32.143	— 1 6.67	— 65.792
	Encke's Comet	27.1	41.0	56.0	10 41.03	5 36.892		
	31, Santini	-	-	2.0	11 47.36	1 31.031	— 1 6.33	— 65.986
3	Weisse O, 436	18.2	32.5	47.0	6 35 32.57	2 38.810	+ 1 49.83	— 10.788
	Encke's Comet	8.2	22.0	37.0	37 22.40	3 36.605		
	Weisse O, 436	58.0	13.0	27.5	39 12.83	2 38.686	+ 1 49.70	— 10.789
	Encke's Comet	47.9	2.5	17.2	41 2.53	3 36.482		
	Weisse O, 436	16.2	30.0	44.7	46 30.30	2 38.040	+ 1 49.80	— 11.172
	Encke's Comet	5.7	20.0	34.6	48 20.10	3 36.219		
	Weisse O, 436	11.0	25.0	39.1	50 25.03	2 37.765	+ 1 50.20	— 11.388
	Encke's Comet	-	15.2	29.3	52 15.23	3 36.160		
	Weisse O, 436	52.2	7.0	21.0	54 6.73	2 37.271	+ 1 49.70	— 11.372
	Encke's Comet	42.0	56.3	11.0	55 56.43	3 35.650		
	Weisse O, 436	9.2	24.0	38.2	57 23.80	2 36.865	+ 1 50.63	— 11.640
	Encke's Comet	59.7	14.5	29.1	59 14.43	3 35.512		
	Weisse O, 436	54.0	8.0	22.9	7 1 8.30	2 36.495	+ 1 51.10	— 11.670
	Encke's Comet	45.0	59.0	14.2	2 59.40	3 35.172		
	Weisse O, 436	3.9	18.0	32.0	4 17.97	2 35.895	+ 1 50.36	— 11.862
	Encke's Comet	54.0	8.0	23.0	6 8.33	3 34.764		
	Weisse O, 436	34.6	49.0	3.6	7 49.07	2 35.205	+ 1 50.73	— 12.138
	Encke's Comet	25.3	39.7	54.4	9 39.80	3 34.350		

RESULTS.

Feb. 29: Corr. Chron. — 0 m. s. 1.83

31, Santini, α = 0 h. m. s. 26 29.14, δ = + 9° 29′ 12.29″

Comet—31, Santini, M. T. 6 h. m. s. 54 58.37: $\Delta\alpha$ = — 2 m. s. 31.71, $\Delta\delta$ = +11′ 41.28″; Δt — .41; $\Delta\varrho$ + .06, + .98; p + .44, + 5.01

Mar. 1: Corr. Chron. — 0 m. s. 2.25

31, Santini, α = 0 h. m. s. 26 29.11, δ = + 9° 29′ 12.11″

Comet—31, Santini, M. T. 6 h. m. s. 59 34.10: $\Delta\alpha$ = — 1 m. s. 7.58, $\Delta\delta$ = —16′ 49.57″; Δt — .17; $\Delta\varrho$ — .11, — 1.53; p + .45, + 5.16

3: Corr. Chron. — 0 m s 5.26

Weisse O, 436, α = 0 h. m. s. 25 48.09, δ = + 8° 57′ 3.33″

Comet—Weisse O, 436, M. T. 6 h. m. s. 54 41.26: $\Delta\alpha$ = + 1 m. s. 50.23, $\Delta\delta$ = — 2′ 55.58″; Δt + .30; $\Delta\varrho$ — .02, — .35; p + .47, + 5.45

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs	m. s.	revs.
Mar. 6	Weisse O, 491	40.9	55.0	9.0	6 39 54.97	3 41.916	+ 0 30.86	— 13.531
	Encke's Comet	11.2	25.8	40.5	40 25.83	4 42.525		
	Weisse O, 491	35.0	49.0	2.0	42 48.67	3 41.530	+ 0 31.43	— 13.837
	Encke's Comet	6.0	- -	34.2	43 20.10	4 42.457		
	Weisse O, 491	53.2	8.1	22.0	48 7.77	3 41.142	+ 0 30.23	— 13.923
	Encke's Comet	- -	38.0	52.7	48 38.00	4 42.149		
	Weisse O, 491	50.2	4.3	19.0	50 4.50	3 40.818	+ 0 30.63	— 14.083
	Encke's Comet	21.0	35.2	49.2	50 35.13	4 41.985		
	Weisse O, 491	42.0	56.0	11.0	51 56.33	3 40.552	+ 0 30.60	— 14.154
	Encke's Comet	12.3	27.0	41.5	52 26.93	4 41.790		
	Weisse O, 491	32.0	47.0	1.0	53 46.67	3 41.662	+ 0 30.73	— 14.344
	Encke's Comet	3.0	17.2	32.0	54 17.40	4 43.090		
	Weisse O, 491	33.0	47.1	2.0	55 47.37	3 41.352	+ 0 30.73	— 14.416
	Encke's Comet	3.5	18.2	32.6	56 18.10	4 42.852		
	Weisse O, 491	47.1	1.0	16.0	58 1.37	3 40.900	+ 0 30.93	— 14.634
	Encke's Comet	18.0	31.9	47.0	58 32.30	4 42.618		
	Weisse O, 491	15.0	- -	43.9	7 0 29.45	3 43.212	+ 0 30.35	— 14.777
	Encke's Comet	46.0	59.2	14.2	0 59.80	4 45.073		
	Weisse O, 491	25.0	40.0	54.0	2 39.67	3 42.821	+ 0 31.03	— 14.770
	Encke's Comet	56.2	- -	25.2	3 10.70	4 44.675		
	Weisse O, 491	8.0	23.0	38.0	19 23.00	2 34.408	+ 0 30.65	— 15.894
	Encke's Comet	39.2	- -	8.1	19 53.65	3 37.309		
	Weisse O, 491	45.0	59.0	14.0	21 59.33	2 33.308	+ 0 30.37	— 16.193
	Encke's Comet	15.4	-	44.0	22 29.70	3 36.508		
	Weisse O, 491	1.9	17.0	31.5	24 16.80	2 32.115	+ 0 30.57	— 16.357
	Encke's Comet	33.0	47.2	1.9	24 47.37	3 35.479		
	Weisse O, 491	25.2	49.0	4.0	26 49.40	2 30.660	+ 0 30.80	— 16.543
	Encke's Comet	6.0	20.0	34.6	27 20.20	3 34.210		
7	Weisse O, 476	27.5	42.0	- -	6 37 42.29	4 43.451	+ 1 15.18	+ 48.841
	Encke's Comet	43.2	57.2	12.0	38 57.47	1 37.590		
	Weisse O, 476	40.6	55.0	10.0	40 55.20	4 43.138	+ 1 14.96	+ 48.695
	Encke's Comet	56.0	9.5	25.0	42 10.16	1 37.423		
	Weisse O, 476	43.5	58.2	13.0	43 58.23	4 42.595	+ 1 15.56	+ 48.485
	Encke's Comet	- -	13.5	27.5	45 13.79	1 37.090		
	Weisse O, 476	18.2	32.0	46.0	52 32.07	4 41.358	+ 1 14.33	+ 47.916
	Encke's Comet	32.0	46.0	1.2	53 46.40	1 36.422		
	Weisse O, 476	29.2	43.0	57.0	55 43.07	4 40.531	+ 1 14.38	+ 47.618
	Encke's Comet		57.3	12.2	56 57.45	1 35.893		
	Weisse O, 476	53.1	8.0	22.2	58 7.77	4 40.312	+ 1 14.86	+ 47.591
	Encke's Comet	8.6	22.1	37.2	59 22.63	1 35.701		
	Weisse O, 476	12.9	27.0	40.9	7 0 26.93	4 39.488	+ 1 14.64	+ 47.087
	Encke's Comet	27.2	41.5	56.0	1 41.57	1 35.381		
	Weisse O, 476	15.1	29.4	44.0	3 29.50	4 38.667	+ 1 14.63	+ 46.954
	Encke's Comet	29.4	44.0	59.0	4 44.13	1 34.693		
	Weisse O, 476	14.2	28.2	42.7	6 28.37	4 37.921	+ 1 14.16	+ 46.838
	Encke's Comet	28 0	42.4	57.2	7 42.53	1 34.063		

RESULTS.

Corr. Chron. + 0 m. 5.96 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 491,	0 28 43.87	8 3 23.79

Comet—Weisse O, 491,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 1 45.62	+ 0 30.71	— 3 47.75
	Δt	+ .08	
	Δϱ	— .05	— .71
	p	+ .52	+ 6.02

Corr. Chron. + 0 m. 6.17 s.

	α	δ
	h. m. s.	° ′ ″
Weisse O, 476,	0 27 49.78	+ 7 19 42.39

Comet—Weisse O, 476,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 57 46.13	+ 1 14.68	+12 10.16
	Δt	+ .20	
	Δϱ	+ .19	+ 2.54
	p	+ .53	+ 6.23

(Continued.)

ENCKE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Mar. 7	Weisse O, 476	1. 3	15. 0	29. 2	7 9 15. 17	4 36. 753	+ 1 13. 99	+ 46. 347	
	Encke's Comet	15. 0	29. 0	43. 5	10 29. 16	1 33. 386			
	Weisse O, 476	45. 0	59. 5	14. 0	11 59. 50	4 35. 710	+ 1 14. 73	+ 46. 202	
	Encke's Comet	59. 7	14. 0	29. 0	13 14. 23	1 32. 488			
10	Encke's Comet	37. 0	51. 0	6. 0	6 48 51. 33	1 28. 412			
	Weisse O, 450	-	-	49. 0	49 34. 33	5 59. 640	— 0 43. 00	+ 91. 353	Corr. Chron. + 0 m. 3. 52 s.
	Encke's Comet	11. 2	25. 0	39. 0	57 25. 07	1 27. 319			a δ
	Weisse O, 450	-	9. 0	34. 0	58 9. 28	5 56. 610	— 0 44. 21	+ 89. 416	Weisse O, 450, 0 h. 26 m. 29. 31 s. + 5° 8′ 14″. 58
	Encke's Comet	32. 0	46. 0	1. 0	7 0 46. 33	1 25. 602			Comet—Weisse O, 450,
	Weisse O, 450	-	31. 0	45. 0	1 31. 28	5 54. 158	— 0 44. 95	+ 88. 681	△a △δ
	Encke's Comet	39. 1	53. 0	8. 0	2 53. 37	1 24. 363			h. m. s. m. s. ′ ″
	Weisse O, 450	-	-	52. 0	3 37. 33	5 52. 661	— 0 43. 96	+ 88. 423	M. T. 6 59 7. 59 — 0 44. 23 +22 49. 80
	Encke's Comet	9. 7	24. 0	39. 0	5 24. 23	1 23. 118			Δt — . 12
	Weisse O, 450	-	9. 0	23. 5	6 9. 28	5 50. 738	— 0 45. 05	+ 87. 745	Δρ + . 98 + 12. 00
									p + . 58 + 6. 92

MARS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 7	Mars								No observations possible.
24	B. Z. 344, 32	5.1	19.2	32.1	9 41 18.80	1 36.698	+ 1 10.63	− 30.142	
	Mars, S. P.	15.0	28.5	41.8	42 28.43	3 36.749			A. 8. Bar. 30.380 in. Ther. Att. 72.0° Int. 30.0 Ex. 30.0
	B. Z. 344, 32	1.3	15.0	28.5	44 14.93	1 36.838	+ 1 9.74	− 28.805	
	Mars, N. P.	11.3	24.7	38.0	45 24.67	3 35.552			
	B. Z. 344, 32	19.2	33.0	46.8	47 33.00	1 36.890	+ 1 9.00	− 30.233	
	Mars, S. P.	29.0	42.0	55.0	48 42.00	3 37.032			α h. m. s. δ ° ′ ″ B. Z. 344, 32, 8 28 15.21 +23 45 33.86
	B. Z. 344, 32	54.0	6.7	21.0	49 7.23	1 36.938	+ 1 8.77	− 28.644	Mars, S. P.—B. Z. 344, 32, 7 Comps.
	Mars, N. P.		16.0	29.0	50 16.00	3 35.491			
	B. Z. 344, 32	55.0	8.0	22.4	10 8 8.47	1 36.982	+ 1 7.66	− 29.467	△α △δ
	Mars, S. P.	3.0	16.2	29.2	9 16.13	3 36.358			h. m. s. m. s. revs. M. T. Chro. 10 9 56.57 +1 7.47 − 29.643
	B. Z. 344, 32	39.2	53.0	7.2	10 53.13	1 36.831	+ 1 7.64	− 29.452	Corr. Chro. + 13.53 Δt + .19 ′ ″ −7 35.67
	Mars, S. P.	47.0	1.0	14.3	12 0.77	3 36.192			Δϱ .00 − .14
	B. Z. 344, 32	52.2	5.0	19.1	14 5.43	1 36.946	+ 1 7.07	− 29.543	− .38 + 3.94
	Mars, S. P.	59.0	12.5	26.0	15 12.50	3 36.398			Mars, N. P.—B. Z. 344, 32, 5 Comps.
	B. Z. 344, 32	26.2	39.2	53.2	16 39.53	1 36.926	+ 1 6.54	− 28.235	h. m. s. m. s. revs. M. T. Chro. 10 12 8.41 +1 7.39 − 28.321
	Mars, N. P.	33.0	46.2	59.0	17 46.07	3 35.070			Corr. Chro. + 13.53 Δt + .19 ′ ″ −7 15.33
	B. Z. 344, 32	46.0	59.2	13.1	26 59.43	1 36.882	+ 1 5.87	− 29.350	Δϱ .00 − .13
	Mars, S. P.	51.9	5.0	19.0	28 5.30	3 36.141			− .38 + 3.94
	B. Z. 344, 32	25.2	39.0	53.0	29 39.07	1 36.940	+ 1 6 30	− 28.020	Planet indistinct and blazing.
	Mars, N. P.	32.0	45.1	59.0	30 45.37	3 34.869			
	B. Z. 344, 32	32.0	45.2	59.1	32 45.43	1 37.010	+ 1 4.40	− 29.313	
	Mars, S. P.	37.5	51.0	4.0	33 50.83	3 36.232			
	B. Z. 344, 32	11.0	24.0	38.0	35 24.33	1 36.943	+ 1 5.60	− 27.900	
	Mars, N. P.	16.5	29.8	43.5	36 29.93	3 34.752			
26	Washington O.	30.2		57.1	9 24 43.65	4 29.762	+ 0 14.25	+ 21.440	A. 9. Bar. 30.950 in. Ther. Att. 75.0° Int. 44.5 Ex. 36.0
	Mars, S. P.	44.5		11.3	24 57.90	2 34.186			
	Washington O.	4.2		31.2	26 17.70	4 29.749	+ 0 14.55	+ 22.584	Mars, S. P.—Washington O., 9 Comps.
	Mars, N. P.	19.2		45.3	26 32.25	2 33.029			△α △δ
	Washington O.	3.7		30.2	35 16.95	4 29.883	+ 0 13.50	+ 21.555	h. m. s. m. s. revs. M. T. Chro. 9 58 30.32 +0 12.11 + 21.945
	Mars, S. P.	17.2		43.7	35 30.45	2 34.192			Corr. Chro. + 52.43 Δt + .03 ′ ″ +5 37.32
	Washington O.	11.4		38.0	37 24.70	4 29.782	+ 0 13.25	+ 22.683	Δϱ .00 + .10
	Mars, N. P.	24.7		51.2	37 37.95	2 32.963			
	Washington O.	47.2			39 0.57	4 29.928	+ 0 13.48	+ 21.774	Mars, N. P.—Washington O., 9 Comps.
	Mars, S. P.	1.0		27.9	39 14.45	2 34.018			h. m. s. m. s. revs.
	Washington O.	16.2			40 29.57	4 29.830	+ 0 13.28	+ 22.934	M. T. Chro. 10 1 6.32 +0 11.78 + 23.199
	Mars, N. P.	29.7		56.0	40 42.85	2 32.760			Corr. Chro. + 52.43 Δt + .03 ′ ″ +5 56.60
	Washington O.	58.4		25.2	44 11.80	4 29.798	+ 0 13.30	+ 21.665	Δϱ .00 + .11
	Mars, S. P.	12.0		38.2	44 25.10	2 33.997			
	Washington O.	24.1		51.0	45 37.55	4 29.738	+ 0 13.05	+ 22.932	
	Mars, N. P.	37.2		4.0	46 50.60	2 32.670			
	Washington O.	45.1		11.3	51 58.20	4 29.768	+ 0 12.50	+ 21.754	
	Mars, S. P.	57 2		24.2	52 10.70	2 33.878			
	Washington O.	27.2		54.3	54 40.75	4 29.760	+ 0 11.90	+ 23.024	
	Mars, N. P.	39.1		6.2	54 52.65	2 32.600			

(Continued.)

NOTE. — All the comparisons at this opposition of Mars are taken with Mean Time Chronometer 2019.Dent.

MARS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 26	Washington O.	7.0	-	34.0	10 10 20.50	4 29.895	+ 0 11.45	+ 22.239	
	Mars, S. P.	19.0	-	44.9	10 31.95	2 33.520			
	Washington O.	46.0	-	13.0	15 59.50	4 29.987	+ 0 11.07	+ 33.650	
	Mars, N. P.	-	-	24.0	16 10.57	2 32 201			
	Washington O.	19.2	-	46.0	17 32.60	4 29.903	+ 0 11.07	+ 22.389	
	Mars, S. P.	-	-	57.1	17 43.67	2 33.378			
	Washington O.	22.0	-	48.3	19 35.15	4 30.023	+ 0 9.92	+ 23.618	
	Mars, N. P.	-	-	58.5	19 45.07	2 32.269			
	Washington O.	6.0	-	33.1	22 19.55	4 29.849	+ 0 10.55	+ 22.102	
	Mars, S. P.	17.2	-	43.0	22 30.10	2 33.611			
	Washington O.	37.0	-	4.1	24 50.55	4 29.929	+ 0 10.15	+ 23.519	
	Mars, N. P.	47.2	-	14.2	25 0.70	2 32.274			
	Washington O.	6.5	-	33.0	39 19.75	4 29.939	+ 0 8.85	+ 22.585	At the 31st comparison the planet had become deformed and unsteady. The remaining comparisons are worthless.
	Mars, S. P.	15.2	-	42.0	39 28.60	2 33.218			
	Washington O.	2.3	-	28.3	42 15.30	4 29.917	+ 0 8.95	+ 23.843	
	Mars, N. P.	11.0	-	37.5	42 24.25	2 31.938			
27	Mars	-	-	-	-	-	-	-	Before star of comparison could be seen the sky became cloudy.
30	* Anon.	47.1	0.3	14.0	10 37 0.47	2 33.419	+ 1 1.60	— 3.519	A. 7. Bar. 29.950 in. Ther. Att. 74°.0 Ex. 35.0
	Mars, S. P.	49.1	1.9	15.2	38 2.07	2 36.938			
	* Anon.	51.2	5.6	18.3	39 5.03	2 33.441	-	-	Mars, S. P.—* Anon., 4 Comps.
	Mars, N. P.	53.0	5.9	20.0	40 6.30	2 35.582			
	* Anon.	53.2	6.3	19.7	42 6.40	2 33.443	+ 1 1.20	— 3.228	△a △δ; h. m. s. / m. s. / revs.; M. T. Chro. 10 47 9.27 +1 0.86 — 3.239
	Mars, S. P.	54.0	7.9	20.9	43 17.60	2 36.671			
	* Anon.	42.0	55.1	9.0	44 55.37	2 33.451	-	-	Corr. Chro. Δt + .16 —0′ 49″.79
	Mars, N. P.	43.2	57.0	10.2	45 56.80	2 35.479			Δϱ .00 — .01
	* Anon.	36.0	49.1	3.0	48 49.37	2 33.412	+ 1 0.40	— 3.073	Mars, N. P.—* Anon., 4 Comps.
	Mars, S. P.	36.5	49.4	3.4	49 49.77	2 36.485			
	* Anon.	51.4	5.0	18.5	51 4.97	2 33.418	-	-	h. m. s. / m. s. / revs.; M. T. Chro. 10 49 32.87 +1 0.88 — 1.994
	Mars, N. P.	52.8	5.9	19.1	52 5.93	2 35.332			Corr. Chro. Δt + .16 —0′ 30″.65
	* Anon.	24.1	37.1	51.0	56 37.40	2 33.232	+ 1 0.23	— 3.136	Δϱ .00 — .01
	Mars, S. P.	24.1	37.8	51.0	57 37.63	2 36.368			
	* Anon.	49.2	2.3	16.2	59 2.57	2 33.287	-	-	Observations bad and interrupted by clouds.
	Mars, N. P.	49.0	2.0	15.9	11 0 2.45	2 35.178			
Feb. 2	Mars, S. P.	31.2	44.9	58.1	9 15 44.73	2 46.230			
	B. Z. 344, 19	0.2	13.7	27.0	17 13.63	2 46.543	— 1 28.93	+ 0.313	
	Mars, N. P.	21.7	35.0	48.0	18 34.90	2 44.953			
	B. Z. 344, 19	50.0	4.1	17.2	20 3.76	2 46.549	— 1 28 86	+ 1.596	
	Mars, N. P.	11.9	25.5	39.0	21 25.47	2 44.895			
	B Z. 344, 19	41.0	54.1	7.5	22 54.20	2 46.498	— 1 28.73	+ 1.603	
	Mars, S. P.	4.6	18.0	31.0	23 17.87	2 45.981			
	B. Z. 344, 19	34.0	47.7	1.0	24 47.56	2 46.502	— 1 29.69	+ 0.521	
	Mars, S. P.	6.9	20.0	33.1	28 20.00	2 46.100			
	B. Z. 344, 19	36.0	49.0	3.0	29 49.33	2 46.500	— 1 29.33	+ 0.400	
	Mars, N. P.	48.1	0.9	14.7	31 1.23	2 44.848			(Continued.)
	B. Z. 344, 19	17.2	31.0	44.0	32 30.73	2 46.578	— 1 29.54	+ 1.730	

MARS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 2	Mars, S. P.	35.0	48.1	2.0	9 34 48.37	2 45.968		
	B. Z. 344, 19	5.0	18.0	32.0	36 18.33	2 46.583	− 1 29.96	+ 0.615
	Mars, N. P.	20.9	34.0	47.0	37 33.97	2 44.761		
	B. Z. 344, 19	51.0	4.0	18.0	39 4.33	2 46.587	− 1 30.36	+ 1.826
	Mars, S. P.	3.9	17 0	31.0	54 17.30	2 45.655		
	B. Z. 344, 19	35.0	48.2	2.0	55 48.40	2 46.550	− 1 31.10	+ 0.895
	Mars, N. P.	51.5	5.0	18.5	57 5.00	2 44.370		
	B. Z. 344, 19	. .	36.5	49.7	58 36.35	2 46.500	− 1 31.35	+ 2.130
	Mars, S. P.	32.9	46.0	59.0	9 59 45.97	2 45.550		
	B. Z. 344, 19	4.1	18.0	31.0	10 1 17.70	2 46.480	− 1 31.73	+ 0.930
	Mars, N. P.	27 0	40.5	54.0	2 40.50	2 44.256		
	B. Z. 344, 19	59.0	12.5	26.0	4 12.50	2 46.470	− 1 32.00	+ 2.214
	Mars, S. P.	33.9	47.0	1.0	5 47.30	2 45.411		
	B. Z. 344, 19	7.0	20.0	33.0	7 20.00	2 46.468	− 1 32.70	+ 1.057
	Mars, N. P.	15.0	28.9	42.5	8 28.80	2 44.201		
	B. Z. 344, 19	48.0	1.0	15.0	10 1.33	2 46.480	− 1 32.53	+ 2.279
	Mars, S. P.	27.2	39.7	53.0	11 39.97	2 45.241		
	B. Z. 344, 19	59.0	12.0	26.0	13 12.33	2 46.342	− 1 32.36	+ 1.101
	Mars, N. P.	55.5	8.7	22.0	15 8.73	2 44.046		
	B. Z. 344, 19	28.0	41.0	55.0	16 41.33	2 46.419	− 1 32.60	+ 2.373
3	2789, B. A. C.	38.2	51.2	5.2	9 6 51.53	3 32.929	+ 1 23.80	+ 0.887
	Mars, S. P.	2.0	15.0	29.0	8 15.33	3 32.042		
	2789, B. A. C.	21.2	34.2	47.5	9 34.30	3 32.818	+ 1 23.53	+ 2.038
	Mars, N. P.	44.5	58.0	11.0	10 57.83	3 30.780		
	2789, B. A. C.	52.0	5.2	19.2	15 5.47	3 32.762	+ 1 23.53	+ 0.757
	Mars, S. P.	16.0	29.0	42.0	16 29.00	3 32.005		
	2789, B. A. C.	25.1	38.3	52.0	17 38.47	3 32.865	+ 1 22.60	+ 2.191
	Mars, N. P.	47.9	1.0	14.3	19 1.07	3 30.674		
	2789, B. A. C.	14.3	28.0	41.0	24 27.77	3 32.782	+ 1 22.50	+ 1.132
	Mars, S. P.	37.0	49.8	4.0	25 50.27	3 31.630		
	2789, B. A. C.	53.0	6.6	19.8	27 6.47	3 32.712	+ 1 22.20	+ 2.247
	Mars, N. P.	15.0	29.0	42.0	28 28.67	3 30.465		
	2789, B. A. C.	21.2	35.0	48.0	30 34.73	3 32.705	+ 1 22.57	+ 1.102
	Mars, S. P.	44.0	57.0	10.9	31 57.30	3 31.603		
	2789, B. A. C.	56.0	10.2	23.0	33 9.73	3 32.771	+ 1 21.54	+ 2.419
	Mars, N. P.	18.0	31.0	44.8	34 31.27	3 30.352		
	2789, B. A. C.	8.0	21.0	35.0	51 21.33	3 32.599	+ 1 20.34	+ 1.307
	Mars, S. P.	28.0	42.0	55.0	52 41.67	3 31.292		
	2789, B. A. C.	31.9	45.7	59.2	55 45.60	3 32.585	+ 1 20.07	+ 2.595
	Mars, N. P.	52.0	6.0	19.0	57 5.67	3 29.990		
	2789, B. A. C.	4.0	17.3	30.0	9 59 17.10	3 32.535	+ 1 19.87	+ 1.314
	Mars, S. P.	23.9	37.0	50.0	10 0 36.97	3 31.221		
	2789, B. A. C.	50.2	3.6	17.2	2 3.87	3 32.513	+ 1 19.46	+ 2.683
	Mars, N. P.	10.0	23.0	37.0	3 23.33	3 29.830		
	2789, B. A. C.	26.3	40.0	53.6	4 39.96	3 32.518	+ 1 19.71	+ 1.518
	Mars, S. P.	46.3	59.7	13.0	5 59.67	3 31.000		

RESULTS.

A. 8. Bar. 30.150 in. Ther. Att. 75°.0 Ex. 32.0

B. Z. 344, 19, h. m. s. 8 16 9.01 +24° 25′ 1″.62

Mars, S. P.—B. Z. 344, 19, 8 Comps.

	h. m. s.		m. s. (Δa)	revs. (Δδ)
M. T. Chro.	9 45 43.41		−1 30.42	+ 0.729
Corr. Chro. +	55.57	Δt −	.25	+0′ 11″.20
		Δρ	.00	.00
		−	.31	+ 3.52

Mars, N. P.—B. Z. 344, 19, 8 Comps.

	h. m. s.		m. s.	revs.
M. T. Chro.	9 46 29.84		−1 30.75	+ 1.968
Corr. Chro. +	55.57	Δt −	.25	+0′ 30″.25
		Δρ	.00	.00
		−	.31	+ 3.52

Towards end of observations planet becomes blurred and uncertain.

A. 8. Bar. 30.150 in. Ther. Att. 78°.0 Ex. 30.5

	a (h. m. s.)	δ (° ′ ″)
2789, B. A C.,	8 11 44.28	+24° 28′ 59″.69

Mars, S. P.—2789, B. A. C., 9 Comps.

	h. m. s.		m. s. (Δa)	revs. (Δδ)
M. T. Chro.	9 46 33.59		+1 21.16	+ 1.242
Corr. Chro. +	57.18	Δt +	.22	+0′ 19″.09
		Δρ	.00	+ .01
		−	.28	+ 3.41

Mars, N. P.—2789, B. A. C., 9 Comps.

	h. m. s.		m s. (Δa)	revs. (Δδ)
M. T. Chro.	9 49 32.91		+1 20.67	+ 2.509
Corr. Chro. +	57.18	Δt +	.22	+0′ 38″.57
		Δρ		+ .01
		−	.28	+ 3.41

(Continued.)

MARS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 3	2789, B. A. C.	7.2	20.6	34.3	10 7 20.70	3 32.462	+ 1 19.30	+ 2.692	
	Mars, N. P.	27.0	40.0	53.0	8 40.00	3 29.770			
	2789, B. A. C.	17.9	31.0	44.6	10 31.16	3 32.495	+ 1 19.61	+ 1.437	
	Mars, S. P.	37.3	51.0	4.0	11 50.77	3 31.058			
	2789, B. A. C.	52 1	5.7	19.3	13 5.70	3 32.513	+ 1 18.63	+ 2.804	
	Mars, N. P.	11.0	25.0	38.0	14 24.33	3 29.709			
	2789, B. A. C.	49.2	3.0	16.2	24 2.80	3 32.422	+ 1 18.50	+ 1.722	Planet much deformed. At commencement of observation a star of 8 9 magnitude just emerging from edge of planet. This star compared at end of the series.
	Mars, S. P.	8.0	20.9	35.0	25 21.30	3 30.700			
	2789, B. A. C.	22.0	35.0	49.0	26 35.33	3 32.441	+ 1 18.67	+ 2.911	
	Mars, N. P.	40 0	54.0	8.0	27 54.00	3 29.530			
	Mars, S. P.	18.0	- -	45.0	30 31.50	3 30.592	- - - -	- - -	
	Mars, N.	- -	-	- -	- -	3 28.530			
	(* 8.9)	26.0	-	52.0	30 39.00	3 31.195			
17	B. Z. 341, 91	43.1	59 0	15.0	9 3 59.03	2 43.238	+ 0 45.97	+ 4.164	A. 9. Bar. in. 30.050 Ther. Att. ° 74.0 Ex. .28
	Mars, S. P.	29.0	45.0	1.0	4 45.00	2 39.074			
	B. Z. 341, 91	53.5	9.2	25.2	6 9.30	2 43.261	+ 0 46.80	+ 5.639	Planet in a blaze and uncertain. Observations impossible.
	Mars, N. P.		56.0	12.0	7 56.10	2 37.622			
25	Mars	- -	- -	-	- - -	- - -	- -	- - - -	A. 9. North pole of Mars presented a singular ring-like appearance, as if there were an elevated band in that part of the planet. Other observations prevented.
29	Mars	- -	- -	- -	- -	- - - -	- - - -	- - - -	A. 9. Observations for position impossible. The appearance noted on the 25th, scarce discernible.

FLORA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar 31	Weisse XII, 360	41.0	54.7	9.0	9 52 54.90	2 35.819	+ 2 9.93	+ 8.843
	Flora	50.0	5.0	19.5	55 4.83	2 26.976		
	Weisse XII, 360	19.0	33.0	48.0	56 33.33	2 35.869	+ 2 9.84	+ 8.778
	Flora	29.0	43.0	57.5	58 43.17	2 27.091		
	Weisse XII, 360	14.1	28.2	42.7	10 0 28.33	2 35.823	+ 2 8.74	+ 8.813
	Flora	23.0	37.0	51.2	2 37.07	2 27.010		
	Weisse XII, 360	37.1	51.3	6.0	3 51.47	2 35.859	+ 2 9.20	+ 9.007
	Flora	46.0	1.0	15.0	6 0.67	2 26.852		
Apr. 2	Weisse XII, 360	13.0		42.2	10 22 27.60	5 38.320	+ 0 13.00	+ 55.363
	Flora	26.2		55.0	22 40.60	1 43.082		
	Weisse XII, 360	29.2		58.1	24 43.65	5 38.359	+ 0 13.25	+ 55.662
	Flora	42 6		11.2	24 56.90	1 42.822		
	Weisse XII, 360	15.2		44.1	26 29.65	5 38.242	+ 0 12.95	+ 55.396
	Flora	28.2		57.0	26 42.60	1 42.971		
	Weisse XII, 360	53.4		22.1	29 7.75	5 38.220	+ 0 13.05	+ 55.467
	Flora	6.6		35.0	29 20.80	1 42.878		
	Weisse XII, 360	42.2		11.2	31 56.70	5 38.272	+ 0 12.90	+ 55.517
	Flora	55.2		24.0	32 9.60	1 42.880		
	Weisse XII, 360	56.9		25.8	34 11.35	5 38.362	+ 0 12.25	+ 55.718
	Flora	9.2		38.0	34 23.60	1 42.769		
10	Weisse XII, 221	40.0	54.2	9 0	9 28 54.40	2 34.482	+ 0 34.40	— 13.659
	Flora		29 0	43.0	29 28.80	3 35.148		
	Weisse XII, 221	28.0	42.0	57.0	30 42.33	2 34.281	+ 0 34.27	— 13.874
	Flora	1.9	16.9	31.0	31 16.60	3 35.162		
	Weisse XII, 221	47.3	1.0	16.1	32 1.47	2 34.375	+ 0 34.05	— 13.640
	Flora		35.0	50.2	32 35.52	3 35.022		
	Weisse XII, 221	48.7	3.1	18.2	34 3.33	2 34.422	+ 0 33.85	— 13.706
	Flora		37.0	52.0	34 37.18	3 35.135		
	Weisse XII, 221	13.8	28.0	42.6	35 28.13	2 34.472	+ 0 33.84	— 13.699
	Flora	47.5	2.0	16.4	36 1.97	3 35 178		
	Weisse XII, 221	33.1	47.5	2.0	36 47.53	2 34.452	+ 0 33.97	— 13.653
	Flora	7.0	21.5	36.0	37 21.50	3 35.112		
	Weisse XII, 221	23.1	37.2	51.8	38 37.07	2 34.440	+ 0 33.93	— 13.668
	Flora	57.0	10.0	26.3	39 11.00	3 35.115		
	Weisse XII, 221	44.2	58.2	13.0	39 58.47	2 34.382	+ 0 34.06	— 13.626
	Flora	18.0	32.6	47.0	40 32.53	3 35.015		
	Weisse XII, 221	38.1	52.5	7.1	41 52.57	2 34.360	+ 0 33.90	— 13.638
	Flora	12.0	26.2	41.2	42 26.47	3 35.005		
	Weisse XII, 221	43.2	57 6	12 2	43 57.67	2 34.411	+ 0 33.86	— 13.612
	Flora	17.0	31.6	46.0	44 31.53	3 35.030		

RESULTS.

Mar 31

Corr. Chron + 0 m. s. 1.69

	a (h. m. s.)	δ (° ′ ″)
Weisse XII, 360,	12 21 34.10	+ 7 41 3.68

Flora—Weisse XII, 360,

		Δa (m. s.)	Δδ (′ ″)
M. T. 10 0 38.13 (h. m. s.)		+ 2 9.43	+ 2 16.18
	Δt	+ .36	
	Δϱ	.00	+ .06
	p	— .13	+ 2.95

Apr. 2

Corr. Chron. + 0 m. s. 0.79

	a (h. m. s.)	δ (° ′ ″)
Weisse XII, 360,	12 21 34.10	+ 7 41 3.77

Flora—Weisse XII, 360,

		Δa (m. s.)	Δδ (′ ″)
M. T. 10 28 23.14 (h. m. s.)		+ 0 12.90	+14 13.32
	Δt	+ .01	
	Δϱ	.00	+ .33
	p	— .08	+ 2.91

10

Corr. Chron. — 0 m. s. 2.21

	a (h. m. s.)	δ (° ′ ″)
Weisse XII, 221,	12 13 58.07	+ 8 38 33.43

Flora—Weisse XII, 221,

		Δa (m. s.)	Δδ (′ ″)
M. T. 9 36 46.10 (h. m. s.)		+ 0 34.01	— 3 30.21
	Δt	+ .09	
	Δϱ	.00	— .08
	p	— .10	+ 2.79

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 7	Psyche	59.2	13.0	28.0	7 59 13.40	3 49.795		
	3061, Rumker	- -	30.0	45.0	8 0 30.30	2 42.052	— 1 16.90	— 20.736
	Psyche	20.1	34.2	49.0	7 34.43	3 49.803		
	3061, Rumker	37.2	51.2	6.1	8 51.50	2 41.969	— 1 17.07	— 20.827
	Psyche	28.0	39.1	54.0	9 39.37	3 49.740		
	3061, Rumker	41.7	56.0	11.2	10 56.30	2 41.930	— 1 16.93	— 20.803
	Psyche	27.1	41.0	56.0	12 41.37	4 36.472		
	3061, Rumker	43.0	58.0	13.2	13 58.07	2 41.702	— 1 16.70	— 20.679
	Psyche	58.2	13.2	28.1	15 13.17	3 49.400		
	3061, Rumker	15.0	29.4	45.2	16 29.87	2 41.488	— 1 16.70	— 20.905
	Psyche	18.2	32.0	47.2	18 32.47	3 49.465		
	3061, Rumker	34.4	49.0	4.2	19 49.20	2 41.532	— 1 16.73	— 20.926
	Psyche	31.0	46.2	1.0	20 46.07	3 49.160		
	3061, Rumker	48.0	2.1	17.2	22 2.43	2 41.535	— 1 16.36	— 20.618
	Psyche	33.0	47.2	1.9	23 47.37	3 49.291		
	3061, Rumker	49.5	4.0	18.2	25 3.90	2 41.601	— 1 16.53	— 20.683
	Psyche	47.2	1.1	16.0	26 1.43	3 49.192		
	3061, Rumker	3.0	18.1	32.0	27 17.70	2 41.188	— 1 16.27	— 20.997
6	Psyche	10.0	24.2	39.0	11 42 24.40	2 42.468		
	Weisse IX, 1259	32.0	46.5	1.5	45 46.67	2 42.819	— 3 22.27	+ 0.351
	Psyche	37.0	52.0	7.0	47 52.00	2 42.448		
	Weisse IX, 1259	59.0	13.5	28.5	51 13.67	2 42.720	— 3 21.67	+ 0.272
	Psyche	22.0	37.0	51.0	53 36.67	2 42.308		
	Weisse IX, 1259	43.6	58.7	13.5	56 58.60	2 42.560	— 3 21.93	+ 0.252
	Psyche	15.5	30.5	45.0	58 30.33	2 42.252		
	Weisse IX, 1259	37.0	52.0	6.0	12 1 51.83	2 42.498	— 3 21.50	+ 0.246
10	3061, Rumker	44.2	59.0	13.0	8 25 58.73	1 39.421	+ 0 7.36	— 46.171
	Psyche	- -	6.0	21.3	26 6.09	4 42.613		
	3061, Rumker	6.2	20.3	35.4	30 20.63	1 39.579	+ 0 8.47	— 46.220
	Psyche	14.3	29.0	44.0	30 29.10	4 42.819		
	3061, Rumker	49.2	- -	17.9	34 3.55	1 39.480	+ 0 7.85	— 46.209
	Psyche	56.9	11.3	26.0	34 11.40	4 42.709		
	3061, Rumker	4.2	18.2	33.0	36 18.47	1 39.561	+ 0 8.06	— 46.130
	Psyche	12.1	26.5	41.0	36 26.53	4 42.711		
	3061, Rumker	39.7	54.0	8.5	40 54.07	1 39.515	+ 0 8.10	— 46.014
	Psyche	47.5	2.0	17.0	41 2.17	4 42.549		
	3061, Rumker	29.2	43.9	- -	45 43.99	1 39.415	+ 0 7.58	— 46.450
	Psyche	37.2	51.5	6.0	45 51 57	4 42.885		
	3061, Rumker	29.2	- -	58.0	48 43.60	1 39.529	+ 0 8.46	— 46.429
	Psyche	- -	52.0	- -	48 52.09	4 42.978		
	3061, Rumker	23.5	- -	53.0	52 38.75	1 39.726	+ 0 8.34	— 46.435
	Psyche	- -	47.0	- -	52 47.09	4 43.181		
	3061, Rumker	16.5	-	46.0	56 31.25	1 39.732	+ 0 8.04	— 46.529
	Psyche	- -	39.5	- -	56 39.29	4 43.281		
	3061, Rumker	45.0	0.0	14.5	59 59.83	1 39.875	+ 0 8.24	— 46 543
	Psyche	53.2	8.0	23.0	9 0 8.07	4 43.438		

RESULTS.

Corr. Chron. — 0 m. s. 19.68

	α	δ
3061, Rumker,	h. m. s. 9 56 56.98	° ′ ″ +13 33 46.28

Psyche—3061, Rumker,

		△α	△δ
M. T.	h. m. s. 8 14 30.22	m. s. — 1 16.69	′ ″ — 5 19.64
	Δt	— .20	
	Δϱ	.00	— .11
	p	+ .06	+ 1.34

Corr. Chron. — 0 m. s 19.70

	α	δ
Weisse IX, 1259,	h. m. s. 9 58 39.92	° ′ ″ +13 30 3.77

Psyche—Weisse IX, 1259,

		△α	△δ
M. T.	h. m. s. 11 50 16.15	m. s. — 3 21.84	′ ″ + 0 4.30
	Δt	— .55	
	Δϱ	.00	.00
	p	+ .16	+ 1.69

Corr. Chron. — 0 m. s 21 67

	α	δ
3061, Rumker,	h. m. s. 9 56 56.95	° ″ —13 33 46 44

Psyche—3061. Rumker,

		△α	△δ
M. T.	h. m. s. 9 0 45.85	m. s. + 0 8.49	′ ″ —11 53.16
	Δt	.01	
	Δϱ	.00	— .27
	p	+ .09	+ 1.38

(Continued.)

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 10	3061, Rumker	37.2	- -	6.5	9 40 51.85	1 31.181	+ 0 9.24	— 46.500
	Psyche	46.0	1.0	- -	41 1.09	4 34.701		
	3061, Rumker	52.2	- -	21.2	44 6.70	1 31.062	+ 0 9.39	— 46.583
	Psyche	2.1	16.0	- -	44 16.09	4 34.665		
	3061, Rumker	52.8	- -	22.0	47 7.40	1 31.168	+ 0 10.19	— 46.508
	Psyche	2.5	17.5	- -	47 17.59	4 34.688		
	3061, Rumker	13.0	- -	42.0	50 27.50	1 31.110	+ 0 9.59	— 46.888
	Psyche	23.0	37.0	- -	50 37.09	4 35.018		
13	(* 29) W.	51.0	6.0	20.2	12 21 5.73	2 37.148	+ 1 6.84	— 2.962
	Psyche	58.0	12.0	27.0	22 12.57	2 40.110		
	(* 29) W.	38.5	53.2	8.2	23 53.30	2 37.135	+ 1 7.03	— 3.025
	Psyche	46 0	0.0	15.0	25 0.33	2 40.160		
	(* 29) W.	24.2	39.0	53.7	27 38.97	2 37.108	+ 1 7.00	— 3.171
	Psyche	31.0	46.0	0.9	28 45.97	2 40.279		
	(* 29) W.	14.2	29.2	43.7	30 29.03	2 37.053	+ 1 6.97	— 3.266
	Psyche	- -	36.0	51.0	31 36.00	2 40.319		
	(* 29) W.	35.4	50.0	5.0	33 50.13	2 37.230	+ 1 7.20	— 3.199
	Psyche	43.0	57.0	12.0	34 57.33	2 40.429		
	(* 29) W.	32.5	47.0	2.0	43 47.17	2 37.262	+ 1 7.16	— 3.280
	Psyche	40.0	54.0	9.0	44 54.33	2 40.542		
	(* 29) W.	13.4	28.5	43.0	47 28.30	2 37.289	+ 1 7.07	— 3.363
	Psyche	21.0	35.1	50.0	48 35.37	2 40.652		
	(* 29) W.	7.0	22.0	37.0	50 22.00	2 37.387	+ 1 7.20	— 3.255
	Psyche	15.0	29.2	-	51 29.20	2 40.642		
	(* 29) W.	39.5	54.2	9.0	57 54.23	2 37.462	+ 1 8.10	— 2.980
	Psyche	48.0	2.0	17.0	59 2.33	2 40.442		
	(* 29) W.	55.0	9.7	24.2	13 0 9.63	2 37.160	+ 1 7.70	— 3.440
	Psyche	3.0	17.0	32.0	1 17.33	2 40.600		
	(* 29) W.	50.2	4.6	19.2	5 4.67	2 37.242	+ 1 7.93	— 3.138
	Psyche	58.1	12.5	27.2	6 12.60	2 40.380		
	(* 29) W.	19.3	34.0	48.3	8 33.87	2 37.082	+ 1 7.53	— 3.290
	Psyche	27.2	41.0	56.0	9 41.40	2 40.372		
	(* 29) W.	39.0	53.7	9.2	11 53.97	2 37.090	+ 1 8.60	— 3.565
	Psyche	47.8	2.0	17.9	13 2.57	2 40.655		
	(* 29) W.	26.0	40.0	55.0	14 40.33	2 37.219	+ 1 8.17	— 3.331
	Psyche	34.2	48.3	3.0	15 48.50	2 40.550		
	(* 29) W.	46.0	0.1	15.2	39 0.43	2 37.173	+ 1 8.70	— 3.608
	Psyche	54.5	9.0	24.0	40 9.17	2 40.781		
	(* 29) W.	33.2	47.9	3.2	41 48.10	2 37.059	+ 1 8.63	— 3.683
	Psyche	42.0	57.0	11.2	42 56.73	2 40.742		
	(* 29) W.	44.1	59.0	14.0	43 59.03	2 37.259	+ 1 9.07	— 3.461
	Psyche	53.2	8.1	23.0	45 8.10	2 40.720		
	(* 29) W.	57.9	12.5	27.3	46 12.57	2 37.121	+ 1 8.36	— 3.627
	Psyche	6.2	20.9	35.7	47 20.93	2 40.748		
	(* 29) W.	42.0	56.0	11.5	48 56.50	2 37.240	+ 1 8.80	— 3.318
	Psyche	51.0	5.0	20.0	50 5.30	2 40.558		

RESULTS.

Corr. Chron. + 0 m. s. 11.29

	a	δ
	h. m. s.	° ′ ″
(* 29) W.,	9 57 31.91	+13 15 21.16

Psyche—(* 29) W.,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
Sid. T.	13 4 18.45	+ 1 7.79	— 0 50.94
	Δρ	.00	— .02
	p +	.12	+ 1.43

(Continued.)

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 18	3069, Rumker	54.0	9.1	23.0	8 44 8.70	5 42.458	+ 1 11.80	+ 68.561
	Psyche	6.0	20.5	35.0	45 20.50	1 34.022		
	3069, Rumker	17.2	31.4	46.0	47 31.53	5 42.369	+ 1 11.49	+ 68.322
	Psyche	. .	43.0	58.0	48 43.02	1 34 172		
	3069, Rumker	40.2	54.2	9.3	49 54.57	5 42.291	+ 1 11.93	+ 68.321
	Psyche	52.0	6.5	21.0	51 6.50	1 34.095		
	3069, Rumker	27.1	42.0	57.0	52 42.03	5 42.199	+ 1 12.00	+ 68.222
	Psyche	39.3	54.0	8.8	53 54.03	1 34.102		
	3069, Rumker	32.0	46.9	1.7	54 46.87	5 42.442	+ 1 12.53	+ 68.615
	Psyche	44.8	59.4	. .	55 59.40	1 33.952		
	3069, Rumker	57.0	11.5	26.0	57 11.50	5 41.919	+ 1 12.13	+ 68.054
	Psyche	9.3	23.6	38.0	58 23.63	1 33.990		
	3069, Rumker	8.0	23.0	38.0	59 23.00	5 41.787	+ 1 12.17	+ 68.131
	Psyche	21.0	35.0	49.5	9 0 35.17	1 33.781		
	3069, Rumker	24.0	38.0	53.5	1 38.50	5 41.580	+ 1 12.33	+ 68.037
	Psyche	36.0	51.0	5.5	2 50.83	1 33.668		
	3069, Rumker	46.8	1.5	16.0	4 1.43	5 41.460	+ 1 12.74	+ 68.283
	Psyche	59.5	14.0	29.0	5 14.17	1 33.302		
	3069, Rumker	53.5	8.5	23.0	6 8.33	5 41.178	+ 1 12.90	+ 67.984
	Psyche	6.7	21.0	36.0	7 21.23	1 33.319		
	α Leonis	59.2	14.3	29.0	9 9 14.17	5 47.671	+ 1 2.90	+ 75.186
	Psyche	2.5	17.0	31.7	10 17.07	1 32.610		
	α Leonis	1.9	17.1	31.5	12 16.83	5 47.455	+ 1 2.60	+ 75.109
	Psyche	5.0	19.3	34.0	13 19.43	1 32.471		
	α Leonis	29.6	44.2	59.0	14 44.27	5 47.198	+ 1 3 40	+ 75.103
	Psyche	33.0	48.0	2.0	15 47.67	1 32.220		
	α Leonis	26.0	41.5	55.6	16 41.03	5 47.019	+ 1 3.03	+ 74.852
	Psyche	29.2	44.5	58.5	17 44.06	1 32.292		
20	α Leonis	41.0	56.0	10.8	8 13 55.93	5 42.109	+ 2 16.90	+ 51.141
	Psyche	58.0	12.5	28.0	16 12.83	2 34.022		
	Weisse X, 45	. .	. .	20.5	17 5.59	4 41.540	− 0 52.76	+ 33.427
	α Leonis	21.0	36.0	51.0	23 36.00	5 42.158	+ 2 17.00	+ 51.147
	Psyche	38.2	53.0	. .	25 53.00	2 34.065		
	Weisse X, 45	32.0	47.0	1.0	26 46.67	4 41.762	− 0 53.67	+ 33.606
	α Leonis	52.0	7.0	22.0	28 7.00	5 42.119	+ 2 17.20	+ 51.168
	Psyche	9.3	24.0	39.3	30 24.20	2 34.005		
	Weisse X, 45	3.1	17.0	32.0	31 17.37	4 41.812	− 0 53.17	+ 33.716
	α Leonis	3.2	18.2	33.0	32 18.13	5 42.365	+ 2 17.14	+ 51.134
	Psyche	21.0	35.2	.	34 35.27	2 34.285		
	Weisse X, 45	14.0	29.0	43.2	35 28.73	4 41.950	− 0 53.46	+ 33.574
	α Leonis	25.2	39.0	54.0	36 39.40	5 42.532	+ 2 17.60	+ 51.106
	Psyche	42.7	57.0	. .	38 57.00	2 34.480		
	Weisse X, 45	35.8	50.0	5.0	39 50.27	4 42.005	− 0 53.23	+ 33.434
	α Leonis	42.0	57.0	10.8	42 56.60	5 42.572	+ 2 17.80	+ 51.208
	Psyche	0.0	14.5	28.7	45 14.40	2 34.418		
	Weisse X, 45	53.0	7.5	22.6	46 7.70	4 42.142	− 0 53.30	+ 33.633

RESULTS.

m. s.
Corr. Chron. − 0 28.35

	α	δ
	h. m. s.	° ′ ″
3069, Rumker,	10 0 19.79	+12 43 4.14

Psyche—3069, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 56 28.50	+ 1 12.20	+17 29.02
		Δt + .18	
		Δϱ .00	+ .42
		p + .10	+ 1.39

	α	δ
	h. m. s.	° ′ ″
α Leonis,	10 0 29.00	+12 41 18.89

Psyche—α Leonis,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 13 48.71	+ 1 2.98	+19 13.67
		Δt + .16	
		Δϱ + .01	+ .49
		p + .11	+ 1.42

m. s.
Corr. Chron. − 0 28.98

	α	δ
	h. m. s.	° ′ ″
α Leonis,	10 0 28.98	+12 41 19.00
Weiss X, 45,	10 3 40.02	+12 45 49.42

Psyche—α Leonis,

		Δα	Δδ
	h. m. s.	m. s	′ ″
M. T.	8 31 23.82	+ 2 17 27	+13 6.17
		Δt + .37	
		Δϱ .00	+ .30
		p + .09	+ 1.36

Psyche—Weisse X, 45,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 31 23.82	− 0 53.26	+ 8 35.88
		Δt − .15	
		Δϱ .00	+ .20
		p + .09	+ 1.36

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 24	Weisse X, 45	15.5	30.2	- -	8 12 30.42	2 33.120	+ 1 45.25	— 18.410
	Psyche	1.0	16.0	30.0	14 15.67	4 25.621		
	Weisse X, 45	8.5	23.0	37.5	16 23.00	2 33.170	+ 1 45.33	— 18.198
	Psyche	54.0	8.0	23.0	18 8.33	4 25.459		
	Weisse X, 45	24.3	39.5	54.0	20 39.26	2 33.095	+ 1 45.47	— 18.403
	Psyche	10.0	25.2	39.0	22 24.73	4 25.589		
	Weisse X, 45	17.0	30.9	45.5	25 31.13	2 33.012	+ 1 46.09	— 18.547
	Psyche	- -	17.0	31.5	27 17.22	4 25.650		
	Weisse X, 45	39.2	54.0	8.2	28 53.80	2 33.055	+ 1 45.87	— 18.524
	Psyche	26.0	39.0	54.0	30 39.67	4 25.670		
	Weisse X, 45	51.9	-	20.9	33 6.40	2 33.061	+ 1 45.93	— 18.643
	Psyche	37.5	52.5	7.0	34 52.33	4 25.795		
	Weisse X, 45	3.4	18.1	32.7	37 18.07	2 33.019	+ 1 46.11	— 18.712
	Psyche	49.2	4.0	- -	39 4.18	4 25.822		
	Weisse X, 45	18.2	32.0	47.2	40 32.46	2 33 003	+ 1 46.72	— 18.798
	Psyche	4.3	19.0	- -	42 19.18	4 25.892		
	Weisse X, 45	36.2	51.0	5.0	43 50.73	2 33.020	+ 1 46.65	— 18.744
	Psyche	23.2	37.2	- -	45 37.38	4 25.855		
25	Weisse X, 45	31.2	46.0	0.8	8 34 46.00	2 34.752	+ 2 27.92	— 19.483
	Psyche	59.0	13.7	29.0	37 13.90	4 41.178		
	Weisse X, 45	7.5	21.9	36.8	39 22.07	2 34.549	+ 2 27.93	— 19.383
	Psyche	35.0	50.0	5.0	41 50.00	4 41.075		
	Weisse X, 45	59.7	14.0	28.5	43 14.07	2 34.449	+ 2 28.26	— 19.619
	Psyche	28.0	42.0	57.0	45 42.33	4 40.739		
31	3113, Rumker	9.0	23.0	38.0	8 50 23.33	1 43.699	+ 2 18.05	— 37.389
	Psyche	- -		56.0	52 41.38	4 38.108		
	3113, Rumker	12.4	27.0	41.7	9 2 27.03	1 43.452	+ 2 19.22	— 37.538
	Psyche	31.0	46.0	-	4 46.25	4 38.010		
	3113, Rumker	33.9	48.0	0.3	6 48.30	1 43.668	+ 2 18.95	— 37.303
	Psyche	53.0	7.0	- -	9 7.25	4 37.991		
	3113, Rumker	13.0	27.0	42.0	17 27.33	1 43.625	+ 2 19.92	— 37.655
	Psyche	32.0	47.0	- -	19 47.25	4 38.300		
	3113, Rumker	44.1	58.1	13.0	22 58.40	1 43.595	+ 2 19.85	— 37.635
	Psyche	3.0	18.0	- -	25 18.25	4 38.250		
	3113, Rumker	14.0	28.2	43.0	27 28.40	1 43.588	+ 2 19.35	— 37.887
	Psyche	33.6	47.5	- -	29 47.75	4 38.495		
	3113, Rumker	38.0	52.3	7.0	32 52.43	1 43.582	+ 2 19.90	— 37.736
	Psyche	58.0	12.0	27.0	35 12.23	4 38.338		
	3113, Rumker	18.3	33.0	48.0	37 33.10	1 43.532	+ 2 20.07	— 37.848
	Psyche	38.5	53.0	8.0	39 53.17	4 38.400		
	3113, Rumker	56.2	10.8	25.0	42 10.66	1 43.455	+ 2 19.84	— 38.006
	Psyche	16.0	30.5	45.0	44 30.50	4 38.481		
	3113, Rumker	0.4	15.0	29.2	46 14.87	1 43.569	+ 2 20.13	— 38.073
	Psyche	20.5	35.0	49.5	48 35.00	4 38.662		
	3113, Rumker	10.2	24.3	39.0	50 24.50	1 43.390	+ 2 20.20	— 38.139
	Psyche	30.5	44.6	59.0	52 44.70	4 38.549		

RESULTS.

m. s.
Corr. Chron. — 0 28.28

	α	δ
	h. m. s.	° ′ ″
Weisse X, 45,	10 3 39.98	+12 45 49.57

Psyche—Weisse X, 45,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 30 2.68	+ 1 45.94	— 4 45.15
	Δt	+ .29	
	Δϱ	.00	— .11
	p	+ .10	+ 1.42

m. s.
Corr. Chron. — 0 29.82

	α	δ
	h. m. s.	° ′ ″
Weisse X, 45,	10 3 39.97	+12 45 49.73

Psyche—Weisse X, 45,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 41 5.59	+ 2 28.04	— 4 59.63
	Δt	— .41	
	Δϱ	.00	— .12
	p	+ .10	+ 1.37

m. s.
Corr. Chron. — 0 29.06

	α	δ
	h. m. s.	° ′ ″
3113, Rumker,	10 8 16.34	+12 24 12.25

Psyche—3113, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 27 0.38	+ 2 19.59	— 9 40.14
	Δt	+ .38	
	Δϱ	— .01	— .32
	p	+ .13	+ 1.46

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 9	3172, Rumker	57.0	12.0	26.5	9 17 11.83	2 35.730	+ 0 52.23	— 6.561
	Psyche	49.0	4.0	-	18 4.06	2 42.291		
	3172, Rumker	53.0	7.0	21.9	20 7.30	2 35.450	+ 0 51.76	— 6.815
	Psyche	45.0	59.0	-	20 59.06	2 42.265		
	3172, Rumker	23.0	37.0	52.0	36 37.33	2 35.174	+ 0 52.23	— 6.926
	Psyche	16.0	29.5	-	37 29.56	2 42.100		
	3172, Rumker	7.0	21.5	36.0	10 12 21.50	4 32.891	+ 0 53.83	— 5.509
	Psyche	1.0	15.0	30.0	13 15.33	4 38.400		
	3172, Rumker	26.0	40.0	55.0	15 40.33	4 33.210	+ 0 54.22	— 5.491
	Psyche	-	34.5	49.2	16 34.55	4 38.701		
	3172, Rumker	48.2	3.1	17.5	19 2.93	4 33.400	+ 0 54.47	— 5.610
	Psyche	-	-	12.0	19 57.40	4 39.010		
10	3172, Rumker	4.8	19.2	34.0	8 33 19.33	1 41.841	+ 1 42.70	— 24.402
	Psyche	47.5	1.8	16.8	35 2.03	3 36.179		
	3172, Rumker	56.0	10.0	25.0	37 10.33	1 41.792	+ 1 42.86	— 24.510
	Psyche	38.5	53.0	-	38 53.19	3 36.238		
	3172, Rumker	44.5	58.9	13.7	40 59.03	1 41.785	+ 1 42.87	— 24.364
	Psyche	27.2	41.5	57.0	42 41.90	3 36.085		
	3172, Rumker	34.6	49.2	4.2	43 49.33	1 41.691	+ 1 42.67	— 24.634
	Psyche	17.5	32.0	46.5	45 32.00	3 36.261		
	3172, Rumker	9.1	23.1	38.0	46 23.40	1 41.740	+ 1 43.33	— 24.644
	Psyche	52.2	7.0	21.0	48 6.73	3 36.320		
	3172, Rumker	53.2	8.0	22.5	49 7.90	1 41.761	+ 1 43.13	— 24.915
	Psyche	-	51.0	6.0	50 51.03	3 36.612		
	3172, Rumker	0.0	14.0	29.3	52 14.43	1 41.682	+ 1 43.20	— 24.511
	Psyche	43.5	57.6	-	53 57.63	3 36.129		
	3172, Rumker	28.5	43.2	58.0	55 43.23	1 41.611	+ 1 43.60	— 24.692
	Psyche	12.5	27.0	41.0	57 26.83	3 36.239		
	3172, Rumker	58.5	12.5	27.5	59 12.83	1 41.585	+ 1 43.20	— 24.964
	Psyche	42.0	56.0	-	9 0 56.03	3 36.485		
	3172, Rumker	32.5	47.0	1.7	1 47.07	1 41.690	+ 1 43.60	— 24.780
	Psyche	16.0	31.0	45.0	3 30.67	3 36.406		
	3172, Rumker	34.2	49.2	3.7	4 49.03	1 41.619	+ 1 43.47	— 24.915
	Psyche	18.0	32.5	47.0	6 32.50	3 36.470		
	3172, Rumker	50.0	5.0	19.2	10 4.73	1 41.481	+ 1 44.07	— 24.975
	Psyche	34.4	49.0	3.0	11 48.80	3 36.392		
11	3172, Rumker	50.2	5.7	19.2	9 7 5.03	1 21.360	+ 2 36.34	— 43.381
	Psyche	27.1	41.0	56.0	9 41 37	4 21.761		
	3172, Rumker	51.5	6.2	21.0	11 6.23	1 21.390	+ 2 36.44	— 43.386
	Weisse X, 316	20.0	34.3	-	12 34.42	5 46.401	+ 1 8.25	+ 41.750
	Psyche	28.0	43.0	57.0	13 42.67	2 47.705		
	3172, Rumker	27.0	41.5	56.0	15 41.50	1 21.331	+ 2 36.87	— 43.431
	Weisse X, 316	56.0	10.0	24.8	17 10.26	5 46.365	+ 1 8.11	+ 41.728
	Psyche	4.1	18.1	33.0	18 18.37	3 34.698		
	3172, Rumker	23.9	39.0	53.0	19 38.63	1 21.190	+ 2 37.04	— 43.572
	Weisse X, 316	-	7.1	21.5	21 7.32	5 46.261	+ 1 8.35	+ 41.624
	Psyche	1.5	15.0	30.5	22 15.67	3 34.698		

RESULTS.

Corr. Chron. — 0 m. 30.91 s.

	a (h. m. s.)	δ (° ′ ″)
3172, Rumker,	10 17 6.66	+11 37 10.67

Psyche—3172, Rumker,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 50 32.42	+ 0 53.12	+ 1 34.55
	Δt	+ .15	
	Δϱ	.00	+ .09
	p	+ .14	+ 1.51

Corr. Chron. — 0 m. 31.39 s.

	a (h. m. s.)	δ (° ′ ″)
3172, Rumker,	10 17 6.64	+11 37 10.72

Psyche—3172, Rumker,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 52 25.22	+ 1 43.23	— 6 19.51
	Δt	+ .28	
	Δϱ	— .01	— .21
	p	+ .12	+ 1.42

Corr. Chron. — 0 m. 31.22 s.

	a (h. m. s.)	δ (° ′ ″)
3172, Rumker,	10 17 6.63	+11 37 10.78
Weisse X, 316,	10 18 35.45	+11 15 20.73

Psyche—3172, Rumker,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 17 42.03	+ 2 36.71	—11 8.42
	Δt	+ .43	
	Δϱ	— .02	— .47
	p	+ .13	+ 1.46

Psyche—Weisse X, 316,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 19 50.00	+ 1 8.37	+10 40.10
	Δt	+ .17	
	Δϱ	+ .02	+ .46
	p	+ .13	+ 1.46

(Continued.)

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 11	3172, Rumker	17.0	31.0	46.0	9 24 31.33	1 20.970	+ 2 36.84	— 43.679	
	Weisse X, 316	45.0	59.0	14.2	25 59.40	5 46.011	+ 1 8.77	+ 41.487	
	Psyche	54.0	8.0	22.5	27 8.17	2 47.578			
12	Weisse X, 316	18.0	32.0	47.0	9 4 32.33	5 36.895	+ 2 0.67	— 22.911	m. s. Corr. Chron. — 0 31.30
	Psyche	19.0	33.0	47.0	6 33.00	4 31.129			a δ
	Weisse X, 316	56.0	10.9	25.0	8 10.63	5 36.790	+ 2 1.74	— 22.976	h. m. s. ° ′ ″ Weisse X, 316, 10 18 35.44 +11 15 20.78
	Psyche	58.1	12.0	27.0	10 12.37	4 30.959			Psyche—Weisse X, 316,
	Weisse X, 316	43.7	58.2	12.0	14 57.96	5 36.731	+ 2 1.44	— 22.907	Δa Δδ
	Psyche	45.0	59.2	14.0	16 59.40	4 30.969			h. m. s. m. s. ′ ″
	Weisse X, 316	19.8	33.9	49.0	18 34.23	5 36.701	+ 2 2.00	— 22.778	M. T. 9 13 3.95 + 2 1.46 — 5 51.86
	Psyche	21.5	36.0	51.2	20 36.23	4 31.068			Δt + .33
									Δρ — .01 — .25
									p + .13 + 1.46
15	Weisse X, 377	51.6	6.0	20.8	8 26 6.13	1 32.010	+ 1 47.87	— 39.465	m. s. Corr. Chron. — 0 31.33
	Psyche	39.0	54.0	..	27 54.00	4 28.495			a δ
	Weisse X, 377	39.1	53.6	8.5	30 53.73	1 37.652	+ 1 47.77	— 40.666	h. m. s. ° ′ ″ Weisse X, 377, 10 21 30.11 +11 16 53.61
	Psyche	27.0	41.5	56.0	32 41.50	4 35.338			Psyche—Weisse X, 377,
	Weisse X, 377	51.6	6.0	21.0	37 6.20	1 37.571	+ 1 48.00	— 40.490	Δa Δδ
	Psyche	39.5	54.1	9.0	38 54.20	4 35.081			h. m. s. m. s. ′ ″
	Weisse X, 377	47.1	2.0	16.5	40 1.87	1 37.541	+ 1 48.63	— 40.484	M. T. 8 42 48.79 + 1 48.33 —10 23.91
	Psyche	36.0	..	5.0	41 50.50	4 35.045			Δt + .30
	Weisse X, 377	14.4	29.1	43.7	43 29.07	1 37.510	+ 1 48.36	— 41.192	Δρ — .01 — .36
	Psyche	3.0	17.3	32.0	45 17.43	4 35.722			p + .12 + 1.40
	Weisse X, 377	34.0	49.0	3.5	47 48.83	1 37.488	+ 1 48.57	— 40.852	
	Psyche	23.2	37.0	52.0	49 37.40	4 35.360			
	Weisse X, 377	5.0	19.5	34.0	51 19.50	1 37.423	+ 1 48.83	— 40.767	
	Psyche	54.0	8.0	23.0	53 8.33	4 35.210			
	Weisse X, 377	14.2	29.2	43.7	55 29.03	1 37.382	+ 1 48.64	— 40.838	
	Psyche	3.0	18.0	32.0	57 17.67	4 35.240			

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
May 19	Weisse XI, 947	19.4	34.0	49.0	12 2 34.13	1 35.351	+ 1 32.94	— 37.724
	Thetis	53.0	7.2	21.0	4 7.07	3 43.011		
	Weisse XI, 947	33.0	48.0	2.0	5 47.77	1 35.495	+ 1 33.28	— 37.278
	Thetis	6.0	21.0	- -	7 21.05	3 42.709		
	Weisse XI, 947	20 0	34.0	49.0	9 34.33	1 35.369	+ 1 32.64	— 37.615
	Thetis	53.0	7.0	20.9	11 6.97	3 42.920		
	Weisse XI, 947	21.2	35.2	49.6	11 35.33	1 35.489	+ 1 33.04	— 37.379
	Thetis	54.2	8.0	22.9	13 8.37	3 42.804		
	Weisse XI, 947	52.5	7.0	21.3	15 6.93	1 35.449	+ 1 33.20	— 37.496
	Thetis	26.0	40.2	54.2	16 40.13	3 42.881		
	Weisse XI, 947	- -	28 5	43.0	17 28.50	1 35.179	+ 1 32.90	— 37.664
	Thetis	47.2	1.0	16.0	19 1.40	3 42.779		
	Weisse XI, 947	22 0	36.0	50.0	21 36.00	1 35.229	+ 1 32.73	— 37.686
	Thetis	54.2	9.0	23.0	23 8.73	3 42.851		
	Weisse XI, 947	54.0	8.5	23.2	25 8.57	1 35.200	+ 1 33.16	— 37.783
	Thetis	27.2	42.0	56.0	26 41.73	3 42.919		
	Weisse XI, 947	53.0	7.0	22.0	28 7.33	1 35.172	+ 1 32.87	— 37.692
	Thetis	26.3	40.2	- -	29 40.20	3 42.800		
20	Weisse XI, 947	10.9	25.0	39.2	9 43 25.03	1 42.666	+ 1 47.70	— 51.940
	Thetis	58.2	13.0	27.0	45 12.73	5 34.481		
	Weisse XI, 947	27.2	42.0	56.3	46 41.83	1 42.629	+ 1 47.74	— 52.006
	Thetis	15.2	29.5	44.0	48 29.57	5 34.510		
	Weisse XI, 947	53.5	7.5	22.0	50 7.57	1 42.542	+ 1 48.03	— 52.063
	Thetis	41.0	55.5	- -	51 55.60	5 34.480		
	Weisse XI, 947	34.2	48.5	3.0	53 48.57	1 42.595	+ 1 47.83	— 51.840
	Thetis	22.0	36.2	51.0	55 36.40	5 34.310		
	Weisse XI, 947	19.0	33.5	48.2	57 33.57	1 42.605	+ 1 48.10	— 52.080
	Thetis	7.0	22.0	36.0	59 21.67	5 34.560		
	Weisse XI, 947	0.0	15.0	29.0	10 0 14.67	1 42.570	+ 1 47.66	— 52.135
	Thetis	48.0	2.0	17.0	2 2.33	5 34.580		
	Weisse XI, 947	33.2	47.0	1.3	2 47.17	1 42.592	+ 1 47.90	— 52.063
	Thetis	21.2	35.0	49.0	4 35.07	5 34.530		
	Weisse XI, 947	26.2	39.7	54.0	5 39.97	1 42.621	+ 1 48.06	— 52.114
	Thetis	14.1	28.0	42.0	7 28.03	5 34.610		
31	Weisse XI, 1023	43.2	57.2	12.0	10 6 57.47	2 40.260	+ 1 33.20	— 23.788
	Thetis	17.0	30.0	45.0	8 30.67	4 38.139		
	Weisse XI, 1023	40.6	55.2	9.5	12 55.10	2 40.240	+ 1 33.57	— 24.131
	Thetis	14.0	29.0	43.0	14 28.67	4 38.462		
	Weisse XI, 1023	27.2	42.0	56.0	16 41.40	2 40.240	+ 1 33.27	— 24.101
	Thetis	- -	15.0	29.0	18 14.67	4 38.432		
	Weisse XI, 1023	34.5	49.0	4.2	19 49.23	2 40.145	+ 1 33.44	— 24.444
	Thetis	8.0	23.0	37.0	21 22.67	4 38.680		
	Weisse XI, 1023	47.2	2.0	16.0	33 1.73	2 40.155	+ 1 33.44	— 24.506
	Thetis	21.0	35.0	49.5	34 35.17	4 38.752		
	Weisse XI, 1023	1.5	14.9	29.5	37 15.30	2 40.050	+ 1 33.80	— 24.624
	Thetis	- -	49.0	3.0	38 49.10	4 38.765		

RESULTS.

Corr. Chron. — 0 m. s. 28.43

	α	δ
Weisse XI, 947,	h. m. s. 11 55 11.53	+ 8° 38′ 51″.15

Thetis—Weisse XI, 947,

		Δα	Δδ
M. T.	h. m. s. 12 16 17.75	m. s. + 1 32.87	′ ″ — 9 37.76
	Δt	+ .25	
	Δϱ	— .02	— .42
	p	+ .24	+ 2.96

Corr. Chron. — 0 m. s. 29.00

	α	δ
Weisse XI, 947,	h. m. s. 11 55 11.52	+ 8° 38′ 51″.22

Thetis—Weisse XI, 947,

		Δα	Δδ
M. T.	h. m. s. 9 56 21.18	m. s. + 1 47.88	′ ″ —13 19.68
	Δt	+ .29	
	Δϱ	.00	— .32
	p	+ .13	+ 2.69

Corr. Chron. — 0 m. s. 30.37

	α	δ
Weisse XI, 1023,	h. m. s. 12 0 8.69	+ 7° 35′ 30″.80

Thetis—Weisse XI, 1023,

		Δα	Δδ
M. T.	h. m. s. 10 22 9.79	m. s. + 1 33.45	′ ″ — 6 12.96
	Δt	+ .25	
	Δϱ	.00	— .19
	p	+ .18	+ 2.68

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 2	Weisse XI, 1023	29.2	43.0	58.0	10 25 43.40	1 24.425	+ 2 43.23	— 72.132
	Thetis	12.0	27.0	40.9	28 26.63	5 36.432		
	Weisse XI, 1023	39.0	53.0	7.0	29 53.00	1 24.242	+ 2 43.57	— 72.193
	Thetis	22.2	36.3	51.2	32 36.57	5 36.310		
	Weisse XI, 1023	18.2	32.6	47.0	33 32.60	1 24.218	+ 2 43.00	— 72.408
	Thetis	1.0	15.8	30.0	36 15.60	5 36.501		
	Weisse XI, 1023	15.3	29.1	43.5	37 29.30	1 24.240	+ 2 43.27	— 72.280
	Thetis	58.0	12.5	27.2	40 12.57	5 36.395		
9	Weisse XII, 63	27.0	41.0	..	10 34 40.97	1 38.825	+ 2 54.36	— 47.297
	Thetis	21 0	35.0	50.0	37 35.33	4 43.142		
	Weisse XII, 63	20.5	35.0	49.5	40 35.00	1 38.840	+ 2 54.17	— 47.299
	Thetis	16.0	29.2	..	43 29.17	4 43.159		
	Weisse XII, 63	27.5	42.0	56.5	46 42.00	1 38.849	+ 2 53.97	— 47.320
	Thetis	..	36.0	57.0	49 35.97	4 43.189		
	Weisse XII, 63	27.2	42.0	56.2	51 41.80	1 38.612	+ 2 54.17	— 47.373
	Thetis	21.5	36.0	..	54 35.97	5 25.860		
	Weisse XII, 63	46.2	0.0	14.2	11 46 0.13	2 42.415	+ 2 57.05	— 48.419
	Thetis	42.5	57.0	..	48 57.18	5 47.780		
	Weisse XII, 63	31.0	45.0	59.2	51 45.07	2 41.839	+ 2 56.26	— 48.605
	Thetis	27.0	41.0	56.0	54 41.33	5 47.390		
10	Thetis	37.0	51.5	7.0	10 2 51.83	5 46.642		
	3907, Rumker	20.9	35.0	49.0	6 34.97	5 48.501	— 3 43.14	+ 1.859
	3911, Rumker	36.5	51.0	5.0	6 50.86	3 50.038	— 3 59.00	— 26.665
	Thetis	45.1	0.0	14.0	9 59.70	5 46.806		
	3907, Rumker	28.5	43.0	56.5	13 42.67	5 48.655	— 3 42.97	+ 1.849
	3911, Rumker	44.0	58.0	13.0	13 58.33	3 49.959	— 3 58.63	— 26.903
	Thetis	27.0	41.0	56.1	15 41.37	5 46.629		
	3907, Rumker	9.7	24.0	38.0	19 23.90	5 48.340	— 3 42.53	+ 1.711
	3911, Rumker	25.5	39.5	54.0	19 39.67	3 49.910	— 3 58.30	— 26.780
	Thetis	2.1	16.0	30.5	21 16.20	5 46.652		
	3907, Rumker	44.6	59.0	..	24 59.18	5 48.442	— 3 42.98	+ 1.790
	3911, Rumker	0.4	..	28.5	25 14.45	3 49.862	— 3 58.25	— 26.851
11	Thetis	3.0	17.5	31.0	9 50 17.16	5 34.710		
	3907, Rumker	0.7	14.5	29.3	53 14.60	3 38.262	— 2 57.44	— 26.509
	3911, Rumker	16.0	30.0	44.0	53 30.00	1 39.605	— 3 12.84	— 55.230
	Thetis	35.2	49.6	3.5	55 49.43	5 34.840		
	3907, Rumker	32.1	46.0	0.0	58 46.03	3 38.341	— 2 56.60	— 26.560
	3911, Rumker	47.5	1.5	16.0	59 1.67	1 39.579	— 3 12.24	— 55.386
	Thetis	9.1	23.5	37.1	10 1 23.23	5 34.868		
	3907, Rumker	6.0	20.0	34.2	4 20.06	3 38.141	— 2 56.83	— 26.788
	3911, Rumker	21.5	36.0	49.0	4 35.50	1 39.520	— 3 12.27	— 55.473
	Thetis	58.1	12.1	26.0	6 12.07	5 34.788		
	3907, Rumker	54.1	8.0	23.0	9 8.37	3 38.142	— 2 56.30	— 26.707
	3911, Rumker	9.5	24.4	38.0	9 23.97	1 39.403	— 3 11.90	— 55.510

RESULTS.

Corr. Chron. — 0 m. 29.97 s.

	α	δ
Weisse XI, 1023,	12h 0m 8.70s	+ 7° 35′ 30″.93

Thetis—Weisse XI, 1023,

		Δα	Δδ
M. T.	10h 33m 52.87s	+ 2m 43.26s	— 18′ 30″.50
	Δt	+ .45	
	Δϱ	— .02	— .59
	p	+ .20	+ 2.69

Corr. Chron. — 0 m. 30.93 s.

	α	δ
Weisse XII, 63,	12h 4m 44.46s	+ 6° 41′ 52″.31

Thetis—Weisse XII, 63,

		Δα	Δδ
M. T.	11h 7m 38.23s	+ 2m 55.00s	— 12′ 13″.42
	Δt	+ .48	
	Δϱ	— .03	— .60
	p	+ .22	+ 2.71

Corr. Chron. — 0 m. 31.40 s.

	α	δ
3907, Rumker,	12h 12m 7.55s	+ 6° 22′ 12″.99
3911, Rumker,	12h 12m 23.39s	+ 6° 29′ 34″.34

Thetis—3907, Rumker,

		Δα	Δδ
M. T.	10h 11m 55.88s	— 3m 42.90s	+ 0′ 27″.70
	Δt	— .61	
	Δϱ	.00	+ .02
	p	+ .18	+ 2.62

Thetis—3911, Rumker,

		Δα	Δδ
M. T.	10h 11m 55.88s	— 3m 58.54s	— 6′ 51″.92
	Δt	— .66	
	Δϱ	— .01	— .23
	p	+ .18	+ 2.62

Corr. Chron — 0 m. 31.23 s.

	α	δ
3907, Rumker,	12h 12m 7.53s	+ 6° 22′ 13″.06
3911, Rumker,	12h 12m 23 38s	+ 6° 29′ 34″.41

Thetis—3907, Rumker,

		Δα	Δδ
M. T.	9h 57m 54.24s	— 2m 56.79s	— 6′ 49″.46
	Δt	— .48	
	Δϱ	— .01	— .22
	p	+ .18	+ 2.60

Thetis—3911, Rumker

		Δα	Δδ
M. T.	9h 57m 54.24s	— 3m 12.31s	— 14′ 11″.48
	Δt	— .52	
	Δϱ	— .03	— .45
	p	+ .18	+ 2.60

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 13	Weisse XII, 160	8.0	- -	37.0	9 41 22.50	4 30.650	+ 0 11.25	+ 20.954
	Thetis	19.5	- -	48.0	41 33.75	2 35.605		
	Weisse XII, 160	52.0	- -	22.0	45 7.00	4 30.549	+ 0 11.90	+ 20.828
	Thetis	4.6	19.0	33.1	45 18.90	2 35.630		
	Weisse XII, 160	0.7	-	30.0	46 15.35	4 30.460	+ 0 11.32	+ 20.459
	Thetis	12.0	27.0	41.0	46 26.67	2 35.910		
	Weisse XII, 160	27.9	- -	57.0	48 42.45	4 30.541	+ 0 11.55	+ 20.713
	Thetis	40.0	- -	8.5	48 54.00	2 35.737		
15	Weisse XII, 160	15.0	29.3	43.7	9 19 29.33	1 55.700	+ 1 52.67	— 39.590
	Thetis	8.0	22.0	36.0	21 22.00	4 52.310		
	Weisse XII, 160	48.0	2.5	17.2	24 2.57	1 55.742	+ 1 52.46	— 39.838
	Thetis	41.0	55.0	9.1	25 55.03	4 52.600		
	Weisse XII, 160	27.1	41.0	56.0	27 41.37	1 55.720	+ 1 52.96	— 39.512
	Thetis	20.0	34.0	49.0	29 34.33	4 52.252		
	Weisse XII, 160	40.9	55.2	9.5	30 55.20	1 53.672	+ 1 52.80	— 39.530
	Thetis	34.0	48.0	2.0	31 48.00	4 52.222		
	Weisse XII, 160	46.3	0.9	15.2	33 0.77	1 55.712	+ 1 52.96	— 39.787
	Thetis	39.2	54.0	8 0	35 53.73	4 52.519		
	Weisse XII, 160	17.2	31.7	46.0	37 31.63	1 55.680	+ 1 53.07	— 39.840
	Thetis	10.5	24.6	39.0	39 24.70	4 52.540		
	Weisse XII, 160	31.0	45.0	59.5	11 5 45.16	2 38.493	+ 1 56.50	— 41.624
	Thetis	- -	- -	56.0	7 41.66	5 37.063		
	Weisse XII, 160	36.0	50.0	4.5	9 50.16	2 38.381	+ 1 56.34	— 41.805
	Thetis	32.0	- -	1.0	11 46.50	5 37.132		
	Weisse XII, 160	31.2	45.7	0.0	13 45.63	2 38.152	+ 1 56.45	— 41.834
	Thetis	28.0	42.0	-	15 42.08	5 36.932		
20	Thetis	53.0	8.0	- -	9 42 8.23	3 35.231		
	3966, Rumker	11.0	24.5	39.0	43 24.83	4 33.363	— 1 16.60	— 11.048
	Thetis	52.6	7.0	21.5	47 7.03	3 35.281		
	3966, Rumker	- -	24.0	39.0	48 24.23	4 33.281	— 1 17.20	— 10.916
	Thetis	47.0	1.0	16.0	50 1.33	3 35.421		
	3966, Rumker	- -	18.5	33.0	51 18.73	4 33.342	— 1 17.40	— 10.837
	Thetis	1.5	15.0	30.3	52 15.60	3 35.410		
	3966, Rumker	18.7	33.0	47.2	53 32.97	4 33.375	— 1 17.37	— 10.881
	Thetis	24.6	38.0	- -	54 38.23	3 35.438		
	3966, Rumker	41.6	55.2	9.7	55 55.50	4 33.387	— 1 17.27	— 10.865
	Thetis	29.1	43.0	57.2	57 43.10	3 35.406		
	3966, Rumker	45.5	59.5	14.0	58 59.67	4 33.348	— 1 16.57	— 10.858
29	Weisse XII, 433	31.0	45.0	2.4	9 15 45.08	3 41.810	+ 0 17.25	+ 5.028
	Thetis	48.0	2.0	17.0	16 2.33	3 36.782		
	Weisse XII, 433	31.5	46.0	1.0	16 46.16	3 41.720	+ 0 17.34	+ 4.842
	Thetis	49.0	- -	18.0	17 3.50	3 36.878		
	Weisse XII, 433	57.0	11.0	26.0	18 11.33	3 41.791	+ 0 17.17	+ 5.191
	Thetis	14.0	28.5	43.0	18 28.50	3 36.600		

RESULTS.

Corr. Chron. — 0 m. 31.28 s.

	α	δ
Weisse XII, 160,	h. m. s. 12 10 36.13	+ 5° 55′ 1.11″

Thetis—Weisse XII, 160,

		Δα	Δδ
M. T.	h. m. s. 9 45 2.05	m. s. + 0 11.50	′ ″ + 5′ 18.74
	Δt	+ .01	
	Δϱ	.00	+ .17
	p	+ .17	+ 2.58

Corr. Chron. — 0 m. 31.36 s.

	α	δ
Weisse XII, 160,	h. m. s. 12 10 36.11	+ 5° 55′ 1.27″

Thetis—Weisse XII, 160,

		Δα	Δδ
M. T.	h. m. s. 10 3 49.53	m. s. + 1 54.02	′ ″ —10′ 20.53
	Δt	+ .31	
	Δϱ	— .01	— .37
	p	+ .19	+ 2.59

Corr. Chron. — 0 m. 25.95 s.

	α	δ
3966, Rumker,	h. m. s. 12 18 22.15	+ 5° 1′ 11.95″

Thetis—3966, Rumker,

		Δα	Δδ
M. T.	h. m. s. 9 50 12.97	m. s. — 1 17.07	′ ″ — 2′ 47.54
	Δt	— .21	
	Δϱ	.00	— .10
	p	+ .18	+ 2.54

(Continued.)

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 29	Weisse XII, 433	19.0	34.0	- -	9 52 34.08	3 38.450	+ 0 18.00	+ 2.860
	Thetis	- -	52.0	- -	52 52.08	3 35.590		
	Weisse XII, 433	8.0	22.0	36.0	10 0 22.00	2 38.110	+ 0 18.08	+ 3.300
	Thetis	27.0	40.0	- -	0 40.08	2 34.810		
	Weisse XII, 433	41.2	55.0	- -	5 55.08	2 38.242	+ 0 20.00	+ 2.750
	Thetis	-	15.0	- -	6 15.08	2 35.492		
	Weisse XII, 433	17.0	-	45.0	9 31.00	2 38.069	+ 0 19.08	+ 2.769
	Thetis	- -	50.0	5.0	9 50.08	2 35.300		
July 2	Weisse XII, 463	10.9	25.0	39.0	9 56 24.97	5 44.450	+ 2 2.25	+ 47.079
	Thetis	-	27.0	- -	58 27.22	2 40.425		
	Weisse XII, 463	44.2	58.0	12.9	59 58.37	5 44.230	+ 2 2.59	+ 46.505
	Thetis	- -	- -	15.0	10 2 0.96	2 40.779		
	Weisse XII, 463	8.2	22.0	36.8	3 22.33	5 44.159	+ 2 1.89	+ 46.428
	Thetis	-	24.0	38.0	5 24.22	2 40.785		
	Weisse XII, 463	36.0	50.0	5.0	21 50.37	5 43.289	+ 2 3.13	+ 46.088
	Thetis	39.0	53.5	8.0	23 53.50	2 40.255		
	Weisse XII, 463	36.0	50.0	5.0	25 50.33	5 43.005	+ 2 3.42	+ 46.028
	Thetis	- -	53.5	8.0	27 53.75	2 40.031		
	Weisse XII, 463	4.2	18.0	32.0	30 18.07	5 42.801	+ 2 3.26	+ 45.957
	Thetis	7.0	21.0	36.0	32 21.33	2 39.898		
3	Weisse XII, 463	53.0	8.0	22.0	9 58 7.67	5 37.768	+ 3 11.42	+ 9.183
	Thetis	- -	19.0	- -	10 1 19.09	4 45.730		
	Weisse XII, 463	43.2	57.5	12.0	6 57.57	5 38.311	+ 3 11.43	+ 9.447
	Thetis	55.0	9.0	23.0	10 9.00	4 46.009		
	Weisse XII, 463	38.7	53.2	8.2	11 53.37	5 38.168	+ 3 11.53	+ 9.533
	Thetis	50.7	5.0	19.0	15 4.90	4 45.780		
	Weisse XII, 463	42.0	56.2	11.2	16 56.47	5 37.768	+ 3 12.03	+ 9.162
	Thetis	54.0	8.5	23.0	20 8.50	4 45.751		
	Weisse XII, 463	27.2	41.5	56.0	22 41.57	5 37.572	+ 3 12.52	+ 9.339
	Thetis	- -	54.0	8.0	25 54.09	4 45.378		
	Weisse XII, 463	44.0	58.2	13.0	27 58.40	5 37.118	+ 3 12.89	+ 9.023
	Thetis	57.1	11.2	- -	31 11.29	4 45.240		
5	861, Santini	13.2	28.1	42.2	9 30 27.83	5 39.418	+ 2 25.00	+ 30.320
	Thetis	38.5	53.0	7.0	32 52.83	3 39.159		
	Weisse XII, 564	- -	37.0	51.0	33 37.07	3 36.470	− 0 44.24	− 2.689
	861, Santini	39.1	52.9	7.2	35 53.07	5 35.928	+ 2 25.00	+ 30.268
	Thetis	4.0	18.1	- -	38 18.07	3 35.721		
	Weisse XII, 564	- -	2.0	16.0	39 2.07	3 33.241	− 0 44.00	− 2.480
	861, Santini	43.0	57.0	11.0	40 57.00	5 35.828	+ 2 25.07	+ 29.891
	Thetis		22.0	37.0	43 22.07	3 35.998		
	Weisse XII, 564	51.7	- -	20.0	44 5.85	3 33.058	− 0 43.78	− 2.940
	861, Santini	46.1	0.0	15.2	46 0.43	5 35.700	+ 2 25.69	+ 30.026
	Thetis	12.0	26.0		48 26.07	3 35.735		
	Weisse XII, 564	55.2	- -	24.0	49 9.06	3 33.018	− 0 42.99	− 2.717
	861, Santini	22.0	36 1	50.9	50 36.33	5 35.572	+ 2 25.74	+ 29.932
	Thetis	48.0	2.0	-	53 2.07	3 35.701		
	Weisse XII, 564	- -	45.0	59.5	53 45.07	3 32.830	− 0 43.00	− 2.871

RESULTS.

Corr. Chron. − 0 m. s. 25.15

	α	δ
Weisse XII, 433,	12 h. 26 m. 4.68 s.	+ 3° 43′ 43.82″
Thetis—Weisse XII, 433,	Δα	Δδ
M. T. 9 h. 42 m. 36.51 s.	+ 0 m. 18.13 s.	+ 0′ 58.71″
Δt	+ .05	
Δϱ	.00	+ .04
p	+ .18	+ 2.49

Corr. Chron. − 0 m. s. 26.60

	α	δ
Weisse XII, 463,	12 h. 27 m. 43.68 s.	+ 3° 4′ 30.75″
Thetis—Weisse XII, 463,	Δα	Δδ
M. T. 10 h. 14 m. 33.56 s.	+ 2 m. 2.76 s.	+ 11′ 52.35″
Δt	+ .33	
Δϱ	+ .05	+ .86
p	+ .20	+ 2.43

Corr. Chron. − 0 m. s. 26.40

	α	δ
Weisse XII, 463,	12 h. 27 m. 43.68 s.	+ 3° 4′ 30.81″
Thetis—Weisse XII, 463,	Δα	Δδ
M. T. 10 h. 16 m. 51.41 s.	+ 3 m. 11.97 s.	+ 2′ 22.64″
Δt	+ .52	
Δϱ	+ .01	+ .19
p	+ .20	+ 2.42

Corr. Chron. − 0 m. s. 27.78

	α	δ
861, Santini,	12 h. 30 m. 49.69 s.	+ 2° 40′ 11.72″
Weisse XII, 564,	12 h. 33 m. 59.46 s.	+ 2° 48′ 36.81″
Thetis—861, Santini,	Δα	Δδ
M. T. 9 h. 45 m. 18.67 s.	+ 2 m. 25.42 s.	+ 7′ 41.49″
Δt	+ .40	
Δϱ	+ .02	+ .44
p	+ .18	+ 2.42
Thetis—Weisse XII, 564,	Δα	Δδ
M. T. 9 h. 45 m. 18.67 s.	− 0 m. 43.52 s.	− 0′ 43.51″
Δt	− .12	
Δϱ	.00	− .04
p	+ .19	+ 2.42

(Continued.)

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 5	861, Santini	57.1	11.4	26.0	9 56 11.50	5 35.405	+ 2 26.07	+ 29.718
	Thetis	- -	37.5	52.0	58 37.57	3 35.748		
	Weisse XII, 564	- -	20.0	34.0	59 20.67	3 32.460	− 0 43.10	− 3.288
8	Weisse XII, 583	40.0	54.0	9.0	9 30 54.33	1 46.607	+ 2 1.67	− 27.683
	Thetis	42.0	- -	10.0	32 56.00	3 44.220		
	Weisse XII, 583	37.5	51.0	6.0	34 51.50	1 46.599	+ 2 2.33	− 27.597
	Thetis	39.5	54.0	8.0	36 53.83	3 44.132		
	Weisse XII, 583	43.1	57.0	11.2	37 57.10	1 46.545	+ 2 2.47	− 27.614
	Thetis	45.5	59.2	14.0	39 59.57	3 44.095		
	Weisse XII, 583	4.1	19.0	33.0	51 18.70	1 46.163	+ 2 2.97	− 28.029
	Thetis	7.5	21.5	36.0	53 21.67	3 44.128		
	Weisse XII, 583	22.1	36.0	50.3	54 36.13	1 45.910	+ 2 3.44	− 28.104
	Thetis	25.2	39.5	54.0	56 39.57	3 43.950		
	Weisse XII, 583	9.1	24.0	38.0	57 23.70	1 45.760	+ 2 3.43	− 28.214
	Thetis	13.1	27.0	41.3	59 27.13	3 43.910		
	Weisse XII, 584	57.0	12.0	26.0	10 0 11.67	5 52.358	+ 1 59.23	+ 38.353
	Thetis	56.0	11.0	- -	2 10.90	3 44.569		
	Weisse XII, 584	43.0	57.0	11.2	5 57.07	5 51.851	+ 1 58.83	+ 37.917
	Thetis	42.0	56.0	9.7	7 55.90	3 43.998		
	Weisse XII, 584	18.2	32.6	46.7	9 32.50	5 51.551	+ 1 59.50	+ 38.363
	Thetis	18.0	32.0	46.0	11 32.00	3 43.252		
9	Weisse XII, 584	29.1	43.1	57.1	9 37 43.10	2 32.975	+ 3 12.02	+ 0.434
	Thetis	- -	55.0	9.0	40 55.12	2 32.541		
	Weisse XII, 584	29.2	44.1	57.5	42 43.60	2 32.728	+ 3 11.83	+ 0.460
	Thetis	41.3	55.0	10.0	45 55.43	2 32.268		
	Weisse XII, 584	29.1	43.2	58.1	47 43.47	2 32.509	+ 3 11.93	+ 0.468
	Thetis	41.5	55.2	9.5	50 55.40	2 32.041		
	Weisse XII, 584	19.6	34.0	47.9	52 33.83	2 32.261	+ 3 12.20	− 0.034
	Thetis	- -	46.0	- -	55 46.03	2 32.295		
	Weisse XII, 584	38.5	53.1	7.2	59 52.93	2 31.778	+ 3 12.64	− 0.153
	Thetis	51.2	5.0	20.5	10 3 5.57	2 31.931		
	Weisse XII, 584	54.5	8.5	23.6	5 8.87	2 31.408	+ 3 13.30	− 0.180
	Thetis	8.0	22.0	36.5	8 22.17	2 31.588		
10	Weisse XII, 638	4.0	18.2	32.0	9 54 18.07	2 38.942	+ 1 37.26	+ 25.475
	Thetis	41.0	56.0	9.0	55 55.33	1 30.538		
	Weisse XII, 638	17.5	32.0	46.0	57 31.83	2 38.790	+ 1 37.30	+ 25.509
	Thetis	55.0	9.0	23.4	59 9.13	1 30.352		
	Weisse XII, 638	31.9	46.0	0.0	10 0 45.97	2 38.700	+ 1 37.26	+ 25.683
	Thetis	9.2	23.5	37.0	2 23.23	1 30.088		
	Weisse XII, 638	16.1	-	44.2	4 30.15	2 38.402	+ 1 37.25	+ 25.672
	Thetis	53.2	- -	- -	6 7.40	1 29.801		
	Weisse XII, 638	13.2	27.5	41.7	8 27.47	2 38.044	+ 1 38.13	+ 25.325
	Thetis	51.3	5.5	20.0	10 5.60	1 29.790		

RESULTS.

Corr. Chron. − 0 m. s. 23.34 s.

	α	δ
Weisse XII, 583,	12 h. 34 m. 50.74 s.	+ 2° 25′ 47″.31

Thetis—Weisse XII, 583,

		Δα	Δδ
M. T.	9 h. 46 m. 9.62 s.	+ 2 m. 2.72 s.	− 7′ 8″.41
	Δt	+ .33	
	Δϱ	− .03	− .45
	p	+ .18	+ 2.39

	α	δ
Weisse XII, 584,	12 h. 34 m. 55.51 s.	+ 2° 8′ 35″.46

Thetis—Weisse XII, 584,

		Δα	Δδ
M. T.	10 h. 6 m. 49.69 s.	+ 1 m. 59.19 s.	+ 9′ 47″.28
	Δt	+ .33	
	Δϱ	+ .06	+ .86
	p	+ .19	+ 2.38

Corr. Chron. − 0 m. s. 25.47 s.

	α	δ
Weisse XII, 584,	12 h. 34 m. 55.50 s.	+ 2° 8′ 35″.52

Thetis—Weisse XII, 584,

		Δα	Δδ
M. T.	9 h. 53 m. 44.48 s.	+ 3 m. 12.32 s.	+ 0′ 2″.55
	Δt	+ .52	
	Δϱ	.00	.00
	p	+ .19	+ 2.38

Corr. Chron. − 0 m. s. 24.37 s.

	α	δ
Weisse XII, 638,	12 h. 37 m. 45.80 s.	+ 1° 52′ 6″.29

Thetis—Weisse XII, 638,

		Δα	Δδ
M. T.	10 h. 2 m. 19.77 s.	+ 1 m. 37.44 s.	+ 6′ 32″.43
	Δt	+ .26	
	Δϱ	+ .04	+ .59
	p	+ .19	+ 2.36

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1852. July 15	876, Santini	39.0	54.0	- -	10 54 53.95	5 47.285	+ 1 28.25	+ 57.719
	Weisse XII, 764	-	29.2	44.0	55 29.15	3 44.145	+ 0 52.85	+ 24.518
	Thetis	8.0	22.0	36.0	56 22.00	1 49.691		
	876, Santini	22.0	36.5	50.0	9 0 36.17	5 47.400	+ 1 28.90	+ 58.048
	Weisse XII, 764	58.0	12.0	27.0	1 12.33	3 44.038	+ 0 52.74	+ 24.625
	Thetis	51.0	5.0	19.2	2 5.07	1 49.477		
	876, Santini	28.5	43.0	57.0	3 42.83	5 47.262	+ 1 28.50	+ 57.808
	Weisse XII, 764	4.1	19.1	33.2	4 18.80	3 44.019	+ 0 52.53	+ 24.504
	Thetis	57.0	11.0	26.0	5 11.33	1 49.579		
	876, Santini	57.5	12.0	26.0	7 11.83	5 47.241	+ 1 29.24	+ 57.734
	Weisse XII, 764	33.5	48.0	2.6	7 48.03	3 43.845	+ 0 53.04	+ 24.277
	Thetis	27.0	41.2	55.0	8 41.07	1 49.632		
	876, Santini	18.1	33.0	47.2	11 32.77	5 47.009	+ 1 29.56	+ 57.299
	Weisse XII, 764	54.2	9.1	23.0	12 8.77	3 43.752	+ 0 53.56	+ 23.981
	Thetis	48.0	2.0	17.0	13 2.33	1 49.835		
	876, Santini	54.6	8.5	23.0	17 8.70	5 46.918	+ 1 29.25	+ 57.493
	Weisse XII, 764	29.5	45.0	59.1	17 44.53	3 43.483	+ 0 53.42	+ 23.997
	Thetis	- -	38.0	53.0	18 37.95	1 49.550		
	876, Santini	34.2	49.0	3.0	20 48.73	5 46.682	+ 1 29.94	+ 57.161
	Weisse XII, 764	10.5	24.2	39.1	21 24.60	3 43.328	+ 0 54.07	+ 23.746
	Thetis	4.0	19.0	33.0	22 18.67	1 49.646		
18	879, Santini	25.2	40.0	53.9	8 31 39.70	1 36.801	+ 1 38.97	— 55.299
	Thetis	6.0	19.0	- -	33 18.67	5 31.975		
	879, Santini	54.2	9.1	22.9	35 8.73	1 36.772	+ 1 39.94	— 55.158
	Thetis	35.0	49.0	- -	36 48.67	5 31.805		
	879, Santini	56.2	11.0	24.8	39 10.67	1 36.772	+ 1 40.00	— 55.138
	Thetis	37.0	51.0	- -	40 50.67	5 31.785		
	879, Santini	35.0	49.0	3.5	8 58 49.16	1 36.282	+ 1 42.34	— 55.194
	Thetis	17.5	31.0	46.0	9 0 31.50	5 31.351		
	879, Santini	28.1	41.9	56.0	3 42.00	1 36.169	+ 1 42.16	— 55.286
	Thetis	10.0	24.0	38.5	5 24.16	5 31.330		
	879, Santini	26.9	41.0	54.6	8 40.83	1 36.022	+ 1 42.87	— 55.484
	Thetis	9.1	24.0	38.0	10 23.70	5 31.381		
19	Thetis	24.0	38.0	52.0	8 32 38.00	4 41.880	+ 1 13.07	+ 27.631
	24193, Lalande	37.0	51.2	5.0	33 51.07	2 40.158		
	Thetis	28.1	43.0	- -	34 42.93	4 41.790	+ 1 12.14	+ 27.488
	24193, Lalande	41.0	55.0	9.2	35 55.07	2 40.211		
	Thetis	39.2	54.0	8.0	36 53.73	4 41.960	+ 1 12.94	+ 27.809
	24193, Lalande	52.0	7.0	21.0	38 6.67	2 40.060		
	Thetis	40.0	54.0	8.0	38 54.00	4 41.800	+ 1 12.47	+ 27.601
	24193, Lalande	52.0	6.0	21.2	40 6.47	2 40.108		
	Thetis	39.1	53.1	- -	40 53.03	4 42.049	+ 1 12.90	+ 27.858
	24193, Lalande	-	6.0	20.0	42 5.93	2 40.100		
	Thetis	44.0	58.1	12.0	43 58.03	4 42.015	+ 1 11.97	+ 27.891
	24193, Lalande	56.0	10.0	24.0	45 10.00	2 40.033		
	Thetis	25.1	39.0	- -	9 10 38.93	4 42.139	+ 1 11.07	+ 28.603
	24193, Lalande	36.0	50.0	4.0	11 50.00	2 39.445		
	Thetis	58.2	13.0	26.0	13 12.40	4 42.012	+ 1 10.77	+ 28.660
	24193, Lalande	9.0	23.0	37.5	14 23 17	2 39.261		

RESULTS.

m. s.
Corr. Chron. — 0 25.43

	a (h. m. s.)	δ (° ′ ″)
876, Santini,	12 44 17.09	+ 0 53 33.24
Weisse XII, 764,	12 44 53.41	+ 1 2 6.57

Thetis—876, Santini,

		△a (m. s.)	△δ (′ ″)
M. T.	9 9 2.92	+ 1 29.06	+14 45.43
	Δt +	.24	
	Δϱ +	.04	+ .83
	p +	.17	+ 2.36

Thetis—Weisse XII, 764,

		△a (m. s.)	△δ (′ ″)
M. T.	9 9 2.92	+ 0 53.17	+ 6 12.50
	Δt +	.14	
	Δϱ +	.02	+ .34
	p +	.17	+ 2.36

m. s.
Corr. Chron. — 0 23.82

	a (h. m. s.)	δ (° ′ ″)
879, Santini,	12 48 4.27	+ 0 51 33.43

Thetis—879, Santini,

		△a (m. s.)	△δ (′ ″)
M. T.	8 50 49.08	+ 1 41.05	—14 9.32
	Δt +	.27	
	Δϱ —	.04	— .74
	p +	.17	+ 2.35

m. s.
Corr. Chron. — 0 24.61

	a (h. m. s.)	δ (° ′ ″)
24193, Lalande,	12 52 19.47	+ 0 34 10.62

Thetis—24193, Lalande,

		△a (m. s.)	△δ (′ ″)
M. T.	8 49 15.51	+ 1 11.99	+ 7 10.56
	Δt +	.19	
	Δϱ +	.02	+ .34
	p +	.16	+ 2.32

(Continued.)

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 19	Thetis	56.0	10.0	24.0	9 15 10.00	4 41.895	+ 1 10.60	+ 28.582	
	24193, Lalande	6.2	20.6	35.0	16 20.60	2 39.222			
	Thetis	39.0	51.1	3.6	16 38 51.24	4 41.930	+ 1 12.15	+ 27.744	
	24193, Lalande	51.0	3.4	15.7	40 3.39	2 40.095			
	Thetis	22.6	34.7	- -	41 34.83	4 42.191	+ 1 11.85	+ 28.090	
	24193, Lalande	34.4	46.6	59.0	42 46.68	2 40.010			
	Thetis	42.1	-	7.8	43 54.96	4 42.201	+ 1 12.21	+ 28.300	
	24193, Lalande	54.8	7.1	19.6	45 7.17	2 39.810			
	Thetis	0.4	12.2	24.8	46 12.45	4 42.212	+ 1 11.62	+ 28.363	
	24193, Lalande	11.8	24.0	36.4	47 24.07	2 39.758			
	Thetis	19 0	31.3	43.6	48 31.31	4 42.050	+ 1 11.74	+ 28.190	
	24193, Lalande	30.7	42.8	55.7	49 43.05	2 39.769			
	Thetis	37.9	50.2	2.4	50 50.15	4 42.059	+ 1 11.37	+ 28.348	
	24193, Lalande	49.3	1.4	13.9	52 1.52	2 39.620			
20	24193, Lalande	3.7 5.6 7.8	- - - - -	27.3 29.7 31.8	16 44 17.65	1 40.028	+ 0 10.17	— 69.066	Corr. Chron. + 0 26.00 (m. s.) 24193, Lalande, a: 12 h 52 m 19.46 s; δ: + 0° 34′ 10″.68 Thetis—24193, Lalande, Δa: + 0 m 10.58 s; Δδ: −17′ 41″.56 Sid. T. 16 h 53 m 25.66 s; Δρ: − .05; Δδ: − 1.03 p: + .17; Δp: + 2.34
	Thetis	13.4 15.7 17.6	- - - - -	38.0 40.2 42.0	44 27.82	5 48.969			
	24193, Lalande	59.1 1.0 3.2	- - - - -	23.1 25.2 27.4	46 13.03	1 39.898	+ 0 10.52	— 68.986	
	Thetis	8.9 11.5 13.8	- - - - - -	32.9 - 38.1	46 23.55	5 48.759			
	24193, Lalande	33.3 35.4 37.6	- - - - -	57.3 - - 1.1	48 47.31	1 40.105	+ 0 10.14	— 68.608	
	Thetis	- - - - - -	- - - . - -	7.3 9.5 11.8	48 57.45	5 48.588			
	24193, Lalande	28.8 30.7 32.7	- - - - .	52.3 54.6 56.7	51 42.63	1 39.740	+ 0 10.13	— 69.143	
	Thetis	38.8 41.2 42.7	- . - . - .	2.8 4.5 6.6	51 52.76	5 48.758			
	24193, Lalande	11.9 14.0 16.3	- - - - -	36.3 38.8 41.7	53 26.49	1 39.949	+ 0 10.84	— 69.076	At this date there were seven transit wires in the micrometer. The transits were observed on the six exterior wires.
	Thetis	23.8 25.0 27.1	- - - - -	47.2 49.4 51.5	53 37.33	5 48.900			
	24193, Lalande	52.7 54.6 56.9	- - - - -	16.8 19.0 21.1	55 6.84	1 39.830	+ 0 10.69	— 69.043	
	Thetis	3.2 5.7 7.4	- - - - - -	27.5 29.6 31.8	55 17.53	5 48.748			

(Continued.)

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
		40.3	- -	4.2					
July 20	24913, Lalande - -	42.7	- -	6.8	16 56 54.61	1 39.720	+ 0 10.82	— 68.900	
		44.9	- -	8.8					
		51.8	-	15.0					
	Thetis - - - -	53.4	- -	17.3	57 5.43	5 48.495			
		55.4	- -	19.7					
		22.2	- -	45.9					
	24913, Lalande - -	24.1	- -	48.3	58 36.23	1 39.761	+ 0 11.05	— 69.318	
		26.5	- -	50.4					
		32.8	- -	57.0					
	Thetis - - - -	35.2	-	59.3	58 47.28	5 48.954			
		37.1	- -	1.4					
		2.7	-	27.0					
	24913, Lalande - -	4.7	- -	29.2	17 0 16.91	1 39.539	+ 0 10.89	— 69.484	
		6.8	- -	31.2					
		13.8	-	37.8					
	Thetis - - - -	15.9	-	40.2	0 27.80	5 48.898			
		17.9	-	42.2					
Aug. 2	Thetis - - - -	49.0	- -	- -	8 46 3.17	5 45.930			
	Weisse XIII, 181 -	- -	-	15.0	46 0.79	1 34.170	+ 0 2.38	— 71.885	Corr. Chron. — 0 m. s. 15.66
	Thetis - - - -	38.0	-	6.5	47 52.25	5 45.840			
	Weisse XIII, 181 -	- -	50.0	- -	47 50.00	1 33.882	+ 0 2.25	— 72.083	Weisse XIII, 181, a: 13 h. 11 m. 18.35 s. δ: — 1° 45′ 1.08″
	Thetis - - -	39.0	-	8.0	49 53.50	5 45.638			Thetis—Weisse XIII, 181,
	Weisse XIII, 181 -	-	51.0	- -	49 51.00	1 33.741	+ 0 2.50	— 72.022	
	Thetis - - - -	12.2	-	40.0	52 26.10	5 45.740			
	Weisse XIII, 181 -	- -	24.0	- -	52 24.00	1 33.570	+ 0 2.10	— 72.295	M. T. 8 h. 50 m. 4.34 s. Δa: + 0 m. 2.45 s. Δδ: — 18′ 27.72″
							Δt +	.00	
	Thetis - - -	11.0	- -	39.0	55 25.00	5 45.488	Δϱ —	.09	— 1.53
	Weisse XIII, 181 -	-	22.0	- -	55 22.00	1 33.538	+ 0 3.00	— 72.075	p + .17 + 2.23
6	Thetis - - - -	56.0	- -	25.0	8 17 10.50	2 38.562			
	Weisse XIII, 294 -	5.0	19.0	34.0	18 19.33	4 36.138	— 1 8.83	+ 23.485	Corr. Chron. — 0 m. s. 15.74
	Thetis - - -	34.0	48.0	2.0	21 48.00	2 38.258			
	Weisse XIII, 294	43.0	57.0	11.5	22 57.17	4 35.980	— 1 9.17	+ 23.631	Weisse XIII, 294, a: 13 h. 18 m. 30.26 s. δ: — 2° 53′ 21.32″
	Thetis - - -	26.9	41.5	55.0	24 41.13	2 38.015			Thetis—Weisse XIII, 294,
	Weisse XIII, 294 -	35.1	49.0	4.1	25 49.40	4 35.812	— 1 8.27	+ 23.706	
	Thetis - - - -	43.0	57.0	11.0	27 57.00	2 38.499			
	Weisse XIII, 294 -	-	5.5	19.2	29 5.50	4 35.650	— 1 8.50	+ 23.060	M. T. 8 h. 37 m. 29.94 s. Δa: — 1 m. 7.72 s. Δδ: + 5′ 55.04″
							Δt —	.18	
	Thetis - - -	39.0	53.0	7.0	30 53.00	2 38.222	Δϱ +	.04	+ .56
	Weisse XIII, 294 -	47.0	1.0	15.9	32 1.30	4 35.530	— 1 8.30	+ 23.217	p + .17 + 2.23
	Thetis - - - -	11.0	25.5	40.0	37 25.50	2 37.788			
	Weisse XIII, 294 -	19.0	34.0	48.0	38 33.67	4 35.048	— 1 8.17	+ 23.169	
	Thetis - - - -	39.0	52.0	7.0	40 52.67	2 36.509			
	Weisse XIII, 294 -	- -	0.0	14.8	42 0.12	4 33.648	— 1 7.45	+ 23.048	
	Thetis - - - -	48.5	- -	16.0	44 2.25	2 36.425			
	Weisse XIII, 294 -	53.0	8 7	23.0	45 8.90	4 33.568	— 1 6.65	+ 23 052	
	Thetis	57.0	11.0	25.0	47 11.00	2 36.322			
	Weisse XIII, 294 -	4.0	18 0	32.7	48 18.23	4 33.218	— 1 7.23	+ 22.805	

(Continued.)

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 6	Thetis	57.0	11.0	25.0	8 51 11.00	2 36.111		
	Weisse XIII, 294	3.5	18.0	32.0	52 17.83	4 32.848	— 1 6.83	+ 22.646
	Thetis	35.0	49.2	4.0	53 49.40	2 36.068		
	Weisse XIII, 294	42.0	56.0	11.0	54 56.33	4 32.940	— 1 6.93	+ 22.781
	Thetis	52.0	7.0	21.0	56 6.67	2 35.839		
	Weisse XIII, 294	59.0	13.0	27.0	57 13.00	4 32.532	— 1 6.33	+ 22.602
14	4377, Rumker	54.9	9.0	- -	8 10 9.25	1 35.820	+ 0 18.58	— 52.022
	Thetis	14.0	27.5	42.0	10 27.83	4 44.862		
	4377, Rumker	28.9	43.0	- -	12 43.25	1 35.628	+ 0 18.75	— 51.932
	Thetis	48.0	- -	16.0	13 2.00	4 44.580		
	4377, Rumker	34.1	48.0	- -	15 48.25	1 35.478	+ 0 18.75	— 52 022
	Thetis	53.0	7.0	21.0	16 7.00	4 44.520		
	4377, Rumker	46.2	0.0	- -	20 0.25	1 34.940	+ 0 19.05	— 52.102
	Thetis	5.0	19.0	33.9	20 19.30	4 44 062		
	4377, Rumker	36.0	50.0	- -	25 50.25	1 34.730	+ 0 19.40	— 52.142
	Thetis	56.0	9.0	24.0	26 9.65	4 43.892		
	4377, Rumker	56.0	11.0	- -	45 11.25	1 32.500	+ 0 20.08	— 53.050
	Thetis	17.0	31.0	46.0	45 31.33	4 42.570		
	4377, Rumker	17.0	- -	-	48 31.02	1 31.760	+ 0 21.50	— 52.870
	Thetis	38.5	- -	- -	48 52.52	4 41.650		
15	Thetis	59.0	13.4	28.0	8 16 13.47	2 37.148		
	Weisse XIII, 563	4.0	19.2	33.0	17 18.73	2 46.279	— 1 5.26	+ 9.131
	Thetis	25.7	40.0	54.2	21 40.67	2 36.802		
	Weisse XIII, 563	30.2	45.1	59.0	22 44.77	2 45.701	— 1 4.10	+ 8.899
	Thetis	3.1	- -	- -	26 17.79	2 36.100		
	Weisse XIII, 563	7.2	22.0	36.0	27 21.73	2 45.380	— 1 3.94	+ 9.280
	Thetis	7.2	21.0	- -	31 20.68	2 35.685		
	Weisse XIII, 563	11.3	25.0	40.0	32 25.43	2 44.852	— 1 4.75	+ 9.167
	Thetis	52.1	7.1	21.0	36 6.73	2 35.695		
	Weisse XIII, 563	56.2	11.0	25.0	37 10.73	2 44.120	— 1 4.00	+ 8.425
	Thetis	6.7	20.8	36.0	39 21.16	2 35.072		
	Weisse XIII, 563	10.0	24.1	39.0	40 24.37	2 43.520	— 1 3.21	+ 8.448
	Thetis	48.1	2.0	- -	44 1.67	2 34.710		
	Weisse XIII, 563	51.5	5.0	19.0	45 5.00	2 43.199	— 1 3.33	+ 8.489

RESULTS.

m. s.
Corr. Chron. — 0 17.37

	α	δ
	h. m. s.	° ′ ″
4377, Rumker,	13 29 43.23	— 4 1 53.28

Thetis—4377, Rumker,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 25 29.72	+ 0 19.44	—13 23.92
	Δt	+ .05	
	Δϱ	— .10	— 1.62
	p	+ .16	+ 2.18

m. s.
Corr. Chron. — 0 17.40

	α	δ
	h. m. s.	° ′ ″
Weisse XIII, 563,	13 32 43.96	— 4 29 39.70

Thetis—Weisse XIII, 563,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 30 25.77	— 1 4.08	+ 2 15.78
	Δt	— .17	
	Δϱ	+ .02	+ .32
	p	+ .17	+ 2.17

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 31	Venus, S. P.	0.0	15.4	31.0	7 54 15.47	3 42.912			
	B. Z. 339, 86	- -	54.0	10.0	54 54.27	1 41.542	— 0 38.80	— 31.461	A. 10. Bar. 29.970 Ther. Att 72°.0 Int. 70.0 Ex. 64.0
	Venus, N. P.	29.1	45.0	0.8	56 44.97	3 40.775			
	B. Z. 339, 86	- -	23.0	38.5	57 22.82	1 41.470	— 0 37.85	— 29.396	
	Venus, S. P.	52.0	7.1	23.0	8 0 7.37	3 42.968			Venus, S. P.—B. Z. 339, 86, 8 Comps.
	B. Z. 339, 86	- -	- -	1.0	0 45.27	1 41.366	— 0 37.90	— 31.693	Δα Δδ; h. m. s. m. s. revs.
	Venus, N. P.	35.4	51.0	7.1	1 51.17	3 40.898			M. T. Chro. 8 12 15.29 —0 36.07 — 32.057
	B. Z. 339, 86	- -	29.0	44.2	2 28.72	1 41.521	— 0 37.55	— 29.468	Corr. Chro. — 1 30.59 Δt — .10 —8′ 12″.75
	Venus, S. P.	17.2	31.9	48.0	4 32.37	3 42.961			Δρ — .01 — .31
	B. Z. 339, 86	- -	9.0	35.0	5 9.42	1 41.552	— 0 37.05	— 31.500	Venus, N. P.—B. Z. 339, 86, 7 Comps.
	Venus, S. P.	31.9	48.0	3.0	11 47.63	3 43.101			h. m. s. m. s. revs.
	B. Z. 339, 86	-	24.0	39.2	12 23.73	1 41.094	— 0 36.10	— 32.108	M. T. Chro. 8 15 17.77 —0 35.45 — 30.041 Δt — .09 —7′ 41″.77
	Venus, N. P.	25.9	42.1	57.2	13 41.73	3 41.089			Δρ — .01 — .29
	B. Z. 339, 86	- -	17.0	33.0	14 17.08	1 41.245	— 0 35.35	— 29.935	
	Venus, S. P.	22.0	37.5	53.0	15 37.50	3 43.280			
	B. Z. 339, 86	- -	13.0	29.0	16 13.35	1 41.152	— 0 35.85	— 32.219	
	Venus, N. P.	35.0	50.2	6.0	17 50.40	3 41.152			
	B. Z. 339, 86	- -	- -	41.2	18 25.65	1 41.058	— 0 35.25	— 30.185	
	Venus, S. P.	38.0	54.1	9.7	19 53.93	3 43.256			
	B. Z. 339, 86	- -	29.2	45.0	20 29.13	1 40.971	— 0 35.20	— 32.376	
	Venus, N. P.	11.2	27.0	42.9	21 27.03	3 41.095			
	B. Z. 339, 86	- -	1.3	17.5	22 1.48	1 40.975	— 0 34.45	— 30.211	
	Venus, S. P.	31.9	47.2	3.0	23 47.37	3 43.260			
	B. Z. 339, 86	- -	21.5	37.5	24 21.77	1 40.888	— 0 34.40	— 32.463	
	Venus, N. P.	24.5	40.0	55.3	25 9.93	3 41.120			
	B. Z. 339, 86	- -	14.3	30.0	26 14.43	1 40.801	— 0 34.50	— 30.410	
	Venus, S. P.	45.1	0.8	16.2	28 0.70	3 43.248			
	B. Z. 339, 86	-	34.0	49.5	28 33.95	1 40.705	— 0 33.25	— 32.634	
	Venus, N. P.	33.4	49.1	5.0	29 49.16	3 41.210			
	B. Z. 339, 86	- -	22.5	38.0	30 22.36	1 40.615	— 0 33.20	— 30.686	
June 2	15548, Lalande	40.2	55.2	11.0	8 50 55.47	2 42.098	+ 2 3.53	— 0.667	A. 10. Clouds all round near the horizon.
	Venus, S. P.	48.0	59.0	10.0	52 59.00	2 42.765			
	15548, Lalande	10.2	26.2	41.0	54 25.80	2 41.804	+ 2 3.57	+ 1.470	m. s. Corrections for Chronometer —1 30.35.
	Venus, N. P.	13.9	29.1	45.1	56 29.37	4 40.334			
5	2700, B. A. C.	20.2	36.0	51.0	7 35 35.73	1 44.298	+ 3 58.37	— 48.220	
	Venus, S. P.	18 9	33.9	49.5	39 34.10	4 49.541			
	2700, B. A. C.	16.2	31.0	- -	40 31.42	1 44.191	+ 3 59.05	— 46.114	
	Venus, N. P.	14.8	30.5	46.1	44 30.47	4 47.328			
	2700, B. A. C.	10.2	25.7	41.2	49 25.70	1 43.958	+ 4 0.07	— 48.758	
	Venus, S. P.	10.5	25.8	41.0	53 25.77	4 49.739			
	2700, B. A. C.	6.2	21.2	37.0	55 21.47	1 43.970	+ 4 0.90	— 46.597	
	B. Z. 279, 192	-	5.0	21.0	57 5.37	4 49.580	+ 2 17.00	+ 1.990	Planet quite wavy during all these observation.
	Venus, N. P.	7.1	22.0	38.0	59 22.37	4 47.590			
	B. Z. 279, 192	41.9	57.0	12.0	8 0 56.97	4 49.456	+ 2 17.76	— 0.553	(Continued.)
	Venus, S. P.	59.0	15.0	30.2	3 14.73	4 50.009			

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s	h. m. s.	revs.	m. s.	revs.	
1852. June 5	B. Z. 279, 192	55.1	10.5	26.0	8 5 10.53	4 49.262	+ 2 18.44	— 0.757	
	Venus, S. P.	13.2	29.0	44.7	7 28.97	4 50.019			A. 9. Bar. 29.990 Ther. Att. 70°.0
									Int. 61.0
	B. Z. 279, 192	36.8	52.3	8.2	8 52.43	4 49.261	+ 2 19.30	+ 1.563	Ex. 61.0
	Venus, N. P.	56.0	12.0	27.2	11 11.73	4 47.698			
									Venus, S. P.—B. Z. 279, 192, 5 Comps.
	B. Z. 279, 192	47.2	3.1	18.5	20 2.93	4 48.903	+ 2 20.44	— 1.379	
	Venus, S. P.	8.1	22.9	39.1	22 23.37	4 50.282			
									△a △δ
									h. m. s. m. s. revs.
	B. Z. 279, 192	41.0	56.2	12.5	23 56.57	4 48.808	+ 2 20.95	+ 0.827	M. T. Chro. 8 21 20.56 +2 20.11 — 1.226
	Venus, N. P.	-	17.5	33.1	26 17.52	4 47.981			Corr. Chro. — 1 29.85 Δt + .38
									′ ″
									—0 18.84
	B. Z. 279, 192	38.1	54.0	9.2	27 53.77	4 48.729	+ 2 21.30	+ 0.904	Δϱ .00 — .01
	Venus, N. P.	59.2	15.0	31.0	30 15.07	4 47.825			
									Venus, N. P.—B. Z. 279, 192, 5 Comps.
	B. Z. 279, 192	38.2	53.0	9.0	31 53.40	4 48.579	+ 2 21.60	— 1.693	h. m. s. m. s. revs.
	Venus, S. P.	0.0	14.0	31.0	34 15.00	4 50.272			M. T. Chro. 8 22 6.60 +2 20.29 + 1.121
									Corr. Chro. — 1 29.85 Δt + .38
	B. Z. 279, 192	43.0	58.2	14.0	36 58.40	4 48.338	+ 2 22.33	— 1.751	′ ″ +0 17.23
	Venus, S. P.	5.2	21.0	36.0	39 20.73	4 50.089			Δϱ .00 + .01
	B. Z. 279, 192	48.2	3.2	18.9	41 3.43	4 47.991	+ 2 22.90	+ 0.323	
	Venus, N. P.	-	26.0	41.9	43 26.33	4 47.668			
9	16236, Lalande	34.1	49.7	5.5	9 57 49.77	3 37.395	+ 1 41.50	+ 3.655	
	Venus, N. P.	15.9	30.9	47.0	59 31.27	3 33.740			A. 9. Bar. 29.792 Ther. Att. 73°.0
									Int. 64.0
	16236, Lalande	19.2	34.5	49.6	8 1 34.43	3 37.305	+ 1 41.47	+ 0.924	Ex. 64.0
	Venus, S. P.	0.9	15.8	31.0	3 15.90	3 36.381			
									Venus, S. P.—16236, Lalande, 6 Comps.
	16236, Lalande	32.4	47.4	3.4	4 47.73	3 37.240	+ 1 41.60	+ 3.398	△a △δ
	Venus, N. P.	14.0	29.1	44.9	6 29.33	3 33.842			h. m. s. m. s. revs.
	16236, Lalande	52.6	7.9	23.6	8 8.03	3 37.099	+ 1 42.34	+ 0.780	M. T. Chro. 8 24 7.34 +1 43.79 + 0.126
	Venus, S. P.	34.9	50.2	6.0	9 50.37	3 36.319			Corr. Chro. — 1 30.98 Δt + .28
									′ ″
									+0 1.94
	16236, Lalande	31.2	46.0	2.0	15 46.40	3 36.881	+ 1 42.97	+ 2.843	Δϱ .00 .00
	Venus, N. P.	14.1	29.0	45.0	17 29.37	3 34.038			
									Venus, N. P.—16236, Lalande, 6 Comps.
	16236, Lalande	37.0	52.0	8.0	19 52.33	3 36.749	+ 1 43.43	+ 0.144	h. m. s. m. s. revs.
	Venus, S. P.	20.2	36.1	51.0	21 35.76	3 36.605			M. T. Chro. 8 20 1.94 +1 43.26 + 2.806
									Corr. Chro. — 1 30.98 Δt + .28
	16236, Lalande	44.1	59.2	14.6	22 59.30	3 36.632	+ 1 43.55	+ 2.570	′ ″ +0 43.13
	Venus, N. P.	-	42.9	58.0	24 42.85	3 34.062			Δϱ .00 + .04
	16236, Lalande	54.0	9.0	24.6	26 9.20	3 36.539	+ 1 44.17	+ 0.026	
	Venus, S. P.	38.1	53.0	9.0	27 53.37	3 36.513			
	16236, Lalande	12.6	27.9	43.0	29 27.83	3 36.389	+ 1 44.47	+ 2.345	
	Venus, N. P.	57.0	12.0	27.9	31 12.30	3 34.044			
	16236, Lalande	21.0	36.2	52.0	32 36.40	3 36.240	+ 1 44.93	— 0.272	
	Venus, S. P.	6.1	21.0	36.9	34 21.33	3 36.512			
	16236, Lalande	46.0	1.0	17.0	39 1.33	3 35.746	+ 1 45.17	+ 2.028	
	Venus, N. P.	30.6	46.7	2.2	40 46.50	3 33.712			
	16236, Lalande	4.5	20.2	35.0	42 19.90	3 35.543	- - - -	— 0.686	The only satisfactory comparisons are the two first.
	Venus, S. P.	- -	- -	- -	- - - -	3 36.229			The four first taken without illumination.
	16236, Lalande	45.5	1.0	16.2	46 0.90	3 35.118	+ 1 46.40	— 0.847	
	Venus, S. P.	32.0	47.0	2.9	47 47.30	3 35.959			
10	Anon. (* 8.9)	14.3	30.6	46.0	8 8 30.30	3 35.595	+ 1 58.60	+ 2.953	A. 6. Wind very high. Planet tremulous.
	Venus, N. P.	13.9	28.8	44.0	10 28.90	3 32.642			
	Anon. (* 8.9)	45.5	0.5	16.0	13 0.67	3 35.361	+ 1 59.57	+ 0.082	m. s.
	Venus, S. P.	45.0	0.1	-	15 0.22	3 35.279			Corrections for Chronometer —1 31.52.
	B. Z. 278, 32	-	58.0	14.0	15 58.42	1 35.319	— 0 58.00	— 30.051	

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 11	Venus, N. P.	20.4	35.5	51.0	8 52 35.63	4 46.035			
	16582, Lalande	17.9	33.2	49.0	55 33.37	2 42.870	— 2 57.74	— 29.029	A. 9. Bar. 30.250 Ther. Att. 70°.0 Ex. 66.0
	Venus, S. P.	27.5	42.5	57.5	58 42.50	4 48.782			Venus, S. P.—16582, Lalande, 5 Comps.
	16582, Lalande	25.2	39.7	55.0	9 1 39.97	2 41.632	— 2 57.47	— 33.014	
	Venus, N. P.	53.1	8.1	- -	3 8.55	4 46.160			△α h. m. s. / △δ m. s. revs.
	16582, Lalande	49.5	4.6	20.9	6 5.00	2 41.562	— 2 56.45	— 30.462	M. T. Chro. 9 19 47.48 —2 55.26 — 33.733
	Venus, S. P.	7.9	23.0	- -	8 23.20	4 48.782			Corr. Chro. — 1 31 49 Δt — .48 —8′ 38″.52
	16582, Lalande	4.0	19.5	35.0	11 19.50	2 41.442	— 2 56.30	— 33.204	Δρ — .14 1.88
	Venus, N. P.	50.0	5.2	20.4	16 5.20	4 46.369			Venus, N. P.—16582, Lalande, 5 Comps.
	16582, Lalande	46.1	1.0	16.0	19 1.03	2 41.260	— 2 55.83	— 30.973	h. m. s. / m. s. / revs.
	Venus, S. P.	45.0	0.3	15.7	20 0.33	4 49.029			M. T. Chro. 9 14 57.70 —2 55.75 — 30.759
	16582, Lalande	40.7	56.0	11.0	22 55.90	2 41.100	— 2 55.57	— 33.793	Corr. Chro. — 1 31.49 Δt — .46 —7′ 52″.81
									Δρ — .13 1.71
	Venus, N. P.	21.5	36.0	51.9	26 36.47	4 46.501			
	16582, Lalande	16.0	31.2	46.2	29 31.13	2 40.788	— 2 54.66	— 31.577	
	Venus, S. P.	49.1	4.1	20.0	31 4.40	4 48.899			
	16582, Lalande	42.6	58.2	13.7	33 58.17	2 40.678	— 2 53.77	— 34.085	
	Venus, N. P.	7.1	23.0	37.9	36 22.66	4 26.181			
	16582, Lalande	1.2	17.0	32.0	39 16.73	2 40.288	— 2 54.07	— 31.757	Planet tremulous.
	Venus, S. P.	31.9	47.0	2.0	40 46.97	4 48.612			
	16582, Lalande	25.0	40.0	55.5	43 40.17	2 39.905	— 2 53.20	— 34.571	
12	Venus, N. P.	40.5	56.0	11.0	8 16 55.83	4 29.782			
	16659, Lalande	42.0	57.0	12.2	19 57.06	2 25.145	— 3 1.23	- - - -	A. 8. Bar. 30.312 Ther. Att. 72°.0 Ex. 70.0
	Venus, S. P.	18.7	34.3	50.0	21 34.33	4 32.429			Observations interrupted. The night growing misty.
	16659, Lalande	20.7	35.6	51.2	24 35.83	2 37.891	— 3 1.50	— 20.402	
	Venus, N. P.	45.5	0.1	16.0	27 0.53	3 43.658			
	16659, Lalande	46.5	1.7	17.5	30 1.90	2 37.440	— 3 1.37	— 19.295	m. s. Correction for Chronometer —1 31.27.
	Venus, S. P.	45.5	1.0	15.9	33 0.80	3 45.182			
	16659, Lalande	46.0	1.0	16.0	36 1.00	2 37.050	— 3 0.20	— 21.109	
14	16641, Lalande	39.1	54.4	10.4	8 8 54.63	2 34.325	+ 1 44.87	+ 0.433	
	Venus, N. P.	25.1	39.8	53.6	10 39.50	4 33.892			A. 10. Bar. 30.276 Ther. Att. 78°.0 Ex. 77.0
	16641, Lalande	24.1	39.1	55.0	12 39.40	2 34.141	+ 1 46.10	— 2.349	Observations interrupted by clouds.
	Venus, S. P.	9.9	25.6	41.0	14 25.50	4 36.490			
	16641, Lalande	20.2	35.0	50.8	21 35.33	2 33.723	+ 1 46.64	+ 0.838	m. s.
	Venus, N. P.	6.8	22.1	37.0	23 21.97	4 32.885			Correction for Chronometer —1 31.27.
	16641, Lalande	40.5	55.0	10.8	24 55.43	2 33.488	+ 1 46.70	— 2.950	
	Venus, S. P.	27.1	42.1	57.2	26 42.13	4 36.438			
	16641, Lalande	52.0	7.2	23.1	28 7.43	2 33.350	+ 1 47.17	— 3.012	
	Venus, S. P.	39.2	54.6	10.0	29 54.60	4 36.362			
15	Venus, S. P.	40.8	56.1	11.9	7 52 56.27	4 34.322			
	17013, Lalande	25.1	40.0	55.0	59 40.03	4 25.228	— 6 43.76	— 9.094	A. 8. Planet tremulous and star badly seen.
	17040, Lalande	- -	9.0	- -	8 0 9.03	5 26.210			
	Venus, N. P.	52.5	8.0	23.1	3 7.87	4 31.709			m. s.
	17013, Lalande	35.5	50.8	- -	9 50.77	4 24.919	— 6 42.90	— 6.790	Correction for Chronometer —1 31.32.
	17040, Lalande	- -	15.0	- -	10 14.97	5 25.875			

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 20	Venus - - - -	- -	- -	- -	- - - -	- - -	- - - -	- - - -	A. 7. Star of comparison could not be seen.
23	Venus - - - -	- -	- -	- -	- - - -	- - -	- - - -	- - - -	To-day Venus should have been observed in the daylight with δ Cancri, but it rained or was cloudy all day.
25	Venus - - - -	- -	- -	- -	- - - -	- - -	- - - -	- - - -	A. 7. Observations commenced, but before any comparisons could be made the planet became too undefined and tremulous.
26	Venus, N. P. - - -	43. 0	58. 0	13. 0	8 59 58. 00	3 41. 068			
	B. Z. 274, 30 - - -	3. 5	19. 0	34. 0	9 2 18. 83	4 36. 532	— 2 20. 83	+ 8. 351	A. 10. Bar. 30. 168 in. Ther. Att. 73°. 0 Ex. 68. 5
	Venus, S. P. - - -	57. 9	12. 8	28. 0	4 12. 90	3 43. 841			
	B. Z. 274, 30 - - -	18. 2	32. 9	48. 6	6 33. 23	4 35. 948	— 2 20. 33	+ 4. 994	
	Venus, N. P. - - -	56. 9	12. 1	26. 7	8 11. 90	3 38. 422			
	B. Z. 274, 30 - - -	17. 5	32. 0	48. 0	10 32. 50	4 33. 698	— 2 20. 60	+ 8. 163	Corrections for Chronometer —1 m. s. 25. 23.
	Venus, S. P. - - -	58. 0	13. 0	28. 0	14 13. 00	3 41. 018			
	B. Z. 274, 30 - -	17. 8	33. 0	48. 0	16 32. 93	3 45. 709	— 2 19. 93	+ 5. 309	
	Venus, N. P. - - -	3. 0	17. 9	33. 0	19 17. 96	4 37. 048			These observations without illumination. The planet tremulous and uncertain.
	B. Z. 274, 30 - - -	- -	38. 5	54. 0	21 38. 76	4 31. 760	— 2 20. 80	+ 7. 599	
27	Venus, S. P. - - -	32. 0	47. 0	2. 9	7 53 47. 30	4 41. 719			
	B. Z. 274, 33 - - -	20. 0	35. 2	51. 0	57 35. 40	2 46. 099	— 3 48. 10	— 21. 484	Corrections for Chronometer —1 m. s. 24. 02.
	Venus, N. P. - - -	26. 0	41. 0	56. 0	8 0 41. 00	4 37. 950			
	B. Z. 274, 33 - - -	14. 0	29. 0	44. 0	4 29. 00	2 45. 173	— 3 48. 00	— 18. 641	High winds and clouds.
29	Venus - - - -	- -	- -	- -	- - - -	- - -	- - - -	- - - -	A. 10. Star of comparison not visible. The planet was also observed on the 2d, 3d, 4th, 5th, 6th, 7th, and 9th of July, but on none of these days were the observations of any the slightest value. Observations were also attempted on the 14th, 15th, 17th, 26th, 29th, 30th, and 31st of August, and on the 1st, 2d, 5th, 7th, and 13th of September. Those of the 26th and 29th of August and 5th of September, which follow, are the only ones in which any comparisons could be made.
Aug. 26	15125, Lalande - -	36. 1	51. 0	6. 0	15 25 51. 03	3 46. 580	+ 3 2. 97	+ 14. 297	
	Venus, S. F. - -	39. 0	54. 0	9. 0	28 54. 00	2 45. 260			A. 7. Bar. 29. 810 in. Ther. Att. 79°. 0 Ex. 82. 0
	15125, Lalande -	35. 9	51. 0	6. 0	30 50. 97	3 47. 449	+ 3 3. 03	+ 17. 398	
	Venus, N. F. - - -	39. 0	54. 0	9. 0	33 54. 00	2 43. 028			
	15125, Lalande - -	2. 0	17. 0	32. 0	35 17. 00	3 47. 992	+ 3 3. 90	+ 14. 699	Venus, S. F.—15125, Lalande, 4 Comps.
	Venus, S. F. - - -	6. 0	20. 8	- -	38 20. 90	2 46. 270			
	15125, Lalande	42. 0	56. 2	11. 0	39 56. 40	3 48. 550	+ 2 3. 76	+ 17. 557	
	Venus, N. F. - - -	45. 5	00. 0	15. 0	43 0. 16	2 43. 970			
	15125, Lalande -	42. 0	57. 0	12. 0	46 57. 00	3 49. 114	+ 3 4. 53	+ 14. 743	
	Venus, S. F. - - -	46. 8	1. 3	16. 5	50 1. 53	2 47. 348			
	15125, Lalande - -	9. 1	24. 6	39. 4	51 24. 37	3 49. 551	+ 3 4. 89	+ 17. 618	
	Venus, N. F. - - -	14. 2	29. 3	44. 3	54 29. 28	2 44. 910			
	15125, Lalande - -	57. 0	12. 0	27. 0	55 12. 00	3 49. 821	+ 3 5. 13	+ 14. 910	
	Venus, S. F. - - -	2. 1	17. 3	32. 0	58 17. 13	2 47. 888			
	15125, Lalande - -	26. 3	41. 2	56. 2	16 0 41. 23	3 49. 972	+ 3 5. 77	+ 17. 471	The planet very tremulous. Observations altogether unsatisfactory.
	Venus, N. F. - - -	32. 0	47. 1	1. 9	3 47. 00	2 45. 478			

Venus, S. F.—15125, Lalande, 4 Comps.

	h. m. s.		m. s. Δα	revs. Δδ
M. T. Chro.	15 43 53. 39		+3 4. 13	+ 14. 662
Corr. Chro. —	15. 81	Δt +	. 50	
			+3′ 45″. 37	
		Δρ —	. 02	+ . 31

Venus, N. F.—15125, Lalande, 4 Comps.

	h. m. s.		m. s.	revs.
M. T. Chro.	15 48 47. 60		+3 4. 36	+ 17. 511
Corr. Chro. —	15. 81	Δt +	. 50	
			+4′ 29″. 19	
		Δρ —	. 02	+ . 43

VENUS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 29	(* 9)	24.0	39.2	53.5	15 27 38.90	3 32.932	+ 4 20.40	— 38.599	A. 6. Bar. in. 30.200 Ther. Att. 69°.0 Ex. 72.0
	Venus, S. F.	44.0	.	14.6	31 59.30	5 28.495			
	Venus, S. F.	30.5	45.5	59.5	37 45.16	5 28.932			Venus, S. F.—2639, B. A. C., 4 Comps.
	2639, B. A. C.	.	5.0	20.0	38 5.16	2 26.712	— 0 20.00	— 45.256	
	Venus, N. F.	55.5	10.3	25.8	40 10.53	5 26.532			M. T. Chro. 15 44 55.08 Δa m. s. −0 19.08 Δδ revs. — 45.342
	2639, B. A. C.	15.0	29.6	44.5	40 29.70	2 26.712	— 0 19.17	— 43.216	Corr. Chro. — 13.69 Δt — .05
	Venus, S. F.	12.6	27.1	42.3	42 27.33	5 29.548			−11′ 36″.96
	2639, B. A. C.	32.0	46.4	1.7	42 46.70	2 27.200	— 0 19.37	— 45.384	Δρ + .05 — 1.12
	Venus, N. F.	20.8	35.5	50.6	44 35.63	5 26.885			Venus, S. F.—2639, B. A. C., 4 Comps.
	2639, B. A. C.	39.0	54.1	9.1	44 54.07	2 27.342	— 0 18.44	— 42.579	h. m. s. m. s. revs.
	Venus, S. F.	39.7	54.6	9.0	46 54.43	5 29.882			M. T. Chro. 15 47 11.92 −0 18.57 — 42.749
	2639, B. A. C.	59.0	13.0	28.2	47 13.40	2 27.480	— 0 18.97	— 45.438	Corr. Chro. — 13.69 Δt — .05
	Venus, N. F.	49.7	4.2	19.2	49 4.37	5 27.200			−10′ 57″.10
	2639, B. A. C.	8.7	23.0	38.0	49 23.23	2 27.660	— 0 18.86	— 42.576	Δρ + .04 — 1.06
	Venus, S. F.	18.3	37.0	48.5	52 33.40	5 30.222			The star nearest the planet was compared. The observations are, however, unsatisfactory. The planet being lambent and wavering.
	2639, B. A. C.	33.2	51.7	6.5	52 51.40	2 27.969	— 0 18.00	— 45.289	
	Venus, N. F.	42.0	57.3	12.2	54 57.17	5 27.552			
	2639, B. A. C.	0.0	15.0	30.0	55 15.00	2 27.960	— 0 17.83	— 42.628	
Sept. 5	Venus, S. F.	0.0	15.0	30.0	10 9 15.00	2 26.745			A. 6. Observations unsatisfactory.
	(*)	.	52.0	7.0	10 52.00	5 25.365	— 1 37.00	+ 42.656	
	(*)	.	22.0	38.0	11 22.50	5 26.028	— 2 7.50	+ 42.319	m. s.
	Venus, N. F.	44.1	59.1	14.0	13 59.07	2 24.368			Correction for Chronometer +0 10.49.
	(*)	.	35.0	49.0	15 34.52	5 25.751	— 1 35.45	+ 44.419	
	(*)	.	5.0	20.0	16 5.02	5 26.295	— 2 5.95	+ 44.963	

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 27	Melpomene	44.1	58.1	12.9	10 21 58.37	5 38.548		
	6049, B. A. C.	35.2	49.2	4.0	22 49.47	2 41.235	— 0 51.10	— 40.367
	Melpomene	3.1	18.1	32.1	24 17.77	5 38.590		
	6049, B. A. C.	- -	9.0	23.6	25 9.30	2 41.360	— 0 51.53	— 40.284
	Melpomene	53.0	- -	22.0	30 7.50	5 38.772		
	6049, B. A. C.	44.6	59.0	13.0	30 58.87	2 41.309	— 0 51.37	— 40.517
	Melpomene	20.0	34.0	49.0	32 34.33	5 38.830		
	6049, B. A. C.	11.5	26.0	40.0	33 25.83	2 41.369	— 0 51.50	— 40.515
	Melpomene	49.1	4.1	18.5	35 3.90	5 38.831		
	6049, B. A. C.	41.0	55.0	9.0	35 55.00	2 41.489	— 0 51.10	— 40.396
	Melpomene	23.1	37.0	52.0	39 37.37	5 39.041		
	6049, B. A. C.	15.0	29.0	44.0	40 29.33	2 41.501	— 0 51.96	— 40.594
	Melpomene	31.0	46.0	0.0	52 45.67	5 39.398		
	6049, B. A. C.	23.5	37.0	52.0	53 37.50	2 41.628	— 0 51.83	— 40.824
	Melpomene	16.0	31.0	44.6	57 30.53	5 39.449		
	6049, B. A. C.	7.5	22.0	36.0	58 21.83	2 41.592	— 0 51.30	— 40.911
	Melpomene	20.9	35.5	49.5	11 1 35.30	5 39.512		
	6049, B. A. C.	13.2	27.1	42.2	2 27.50	2 41.675	— 0 52.20	— 40.891
	Melpomene	31.3	46.0	1.0	7 46.10	5 39.809		
	6049, B. A. C.	24.3	38.0	52.8	8 38.37	2 41.670	— 0 52.27	— 41.193
	Melpomene	19.1	33.2	48.0	10 33.43	5 39.775		
	6049, B. A. C.	11.7	26.0	40.3	11 26.00	2 41.655	— 0 52.57	— 41.174
	Melpomene	17.2	32.0	46.2	13 31.80	5 39.795		
	6049, B. A. C.	10.2	24.2	39.2	14 24.53	2 41.672	— 0 52.73	— 41.177
	Melpomene	24.7	39.1	53.6	16 39.13	5 39.867		
	6049, B. A. C.	17.1	31.7	46.0	17 31.60	2 41.672	— 0 52.47	— 41.249
	Melpomene	17.9	32.0	47.0	19 32.30	5 39.920		
	6049, B. A. C.	10.2	25.0	39.3	20 24.83	2 41.700	— 0 52.53	— 41.274
	Melpomene	59.7	14.7	29.2	21 14.53	5 39.960		
	6049, B. A. C.	52.7	7.1	22.0	22 7.27	2 41.648	— 0 52.74	— 41.366
	Melpomene	55.0	9.6	24.1	23 9.63	5 39.862		
	6049, B. A. C.	48.1	2.0	17.1	24 2.43	2 41.569	— 0 52.80	— 41.347
	Melpomene	19.5	34.0	48.5	40 34.00	5 40.420		
	6049, B. A. C.	12.6	27.1	41.2	41 26.93	2 41.601	— 0 52.93	— 41.873
	Melpomene	58.1	13.0	- -	42 13.17	5 40.301		
	6049, B. A. C.	52.0	6.0	21.0	43 6.33	2 41.620	— 0 53.16	— 41.735
	Melpomene	54.1	8.0	22.9	45 8.53	5 40.351		
	6049, B. A. C.	47.0	1.0	16.1	46 1.37	2 41.572	— 0 52.84	— 41.833
	Melpomene	5.0	19.2	34.1	47 19.43	5 40.422		
	6049, B. A. C.	58.2	12.5	27.0	48 12.57	2 41.555	— 0 53.14	— 41.921
	Melpomene	25.1	39.1	54.0	50 39.40	5 40.388		
	6049, B. A. C.	18.0	32.5	47.1	51 32.53	2 41.510	— 0 53.13	— 41.932
28	Melpomene	55.0	9.0	24.0	8 43 9.33	5 41.943		
	6049, B. A. C.	13.0	27.6	42.2	44 27.60	1 36.565	— 1 18.27	— 65.503
	Melpomene	40.0	55.0	9.5	46 54.83	5 42.002		
	6049, B. A. C	59.0	13.0	28.0	48 13.33	1 36.562	— 1 18.50	— 65.565

RESULTS.

Corr. Chron. — 0 m. s. 16.37

	α	δ
	h. m. s.	° ′ ″
6049, B. A. C.,	17 44 52.16	—10 51 25.72

Melpomene—6049, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	11 7 3.26	— 0 52.25	—10 31.89
	Δt	— .14	
	Δρ	— .01	— .48
	p	+ .16	+ 4.90

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
July 28	Melpomene	53.1	8.0	22.1	8 51 7.40	5 42.282		
	6049, B. A. C.	- -	26.5	41.2	52 26.47	1 36.637	— 1 19.07	— 65.770
	Melpomene	56.1	11.0	25.7	54 10.93	5 42.149		
	6049, B. A. C.	- -		44.1	55 29.37	1 36.605	— 1 18.44	— 65.669
	Melpomene	26.1	41.0	55.0	57 40.70	5 42.351		
	6049, B. A. C.	44.6	59.0	14.1	58 59.23	1 36.619	— 1 18.53	— 65.857
		55.3	-	20.7				
28	Melpomene	57.6	10.3	22.7	17 31 10.24	5 42.530		
		0.2	-	24.8				
		14.8	- -	39.7				
	6049, B. A. C.	16.3	29.4	42.3	32 29.35	1 36.601	— 1 19.11	— 66.054
		18.2	- -	44.1				
		- -	- -	36.7				
	Melpomene	- -	26.3	38.9	34 26.30	5 42.518		
		- -	- -	41.0				
		31 2	- -	55.8				
	6049, B. A. C.	33.1	45.5	58.2	35 45.61	1 36.642	— 1 19.31	— 66.001
		35.4	- -	0.3				
		49.8	-	14.9				
	Melpomene	51.9	4.5	16.9	37 4.47	5 42.672		
		54.2	- -	18.9				
		- -	- -	33.8				
	6049, B. A. C.	- -	23.9	36.3	38 23.90	1 36.605	— 1 19.43	— 66.192
		- -	- -	38.4				
		32.4	- -	57.1				
	Melpomene	34.7	46.9	59.3	39 46.93	5 42.542		
		36.8	- -	1.4				
		51.8	- -	16.8				
	6049, B. A. C.	53.7	6.0	18.8	41 6.21	1 36.581	— 1 19.28	— 66.086
		55.9	- -	20.9				
		11.7	-	36.5				
	Melpomene	13.8	26.0	38.7	42 26.17	5 42.589		
		16.0	- -	40.8				
		31.3	-	56.1				
	6049, B. A. C.	33.1	45.7	58.0	43 45.67	1 36.572	— 1 19.50	— 66.142
		35.2	-	0.2				
		4.2		28.9				
	Melpomene	6.2	18.6	30.9	45 18.61	5 42.689		
		8.3		33.2				
		23.7	-	48.3				
	6049, B. A. C.	25.6	38.0	50.7	46 38.10	1 36.618	— 1 19.49	— 66.196
		27.8	-	52.8				
		49.2	-	13.9				
	Melpomene	51.4	3.7	16.1	48 3.71	5 42.739		
		53.4	- -	18.3				
		8.9	- -	33.4				
	6049, B. A. C.	10.7	23.0	35.7	49 23.14	1 36.655	— 1 19.43	— 66.209
		12.9	- -	37.7				

RESULTS.

m. s.
Corr. Chron. — 0 15.32

	α	δ
	h. m. s.	° ′ ″
6049, B. A. C.,	17 44 52.16	—10 51 25.68

Melpomene—6049, B. A. C.,

		$\Delta\alpha$	$\Delta\delta$
	h. m. s.	m. s.	′ ″
M. T.	8 50 21.32	— 1 18.56	—16 49.37
	Δt	— .21	
	$\Delta\varrho$	.00	— .68
	p	— .04	+ 4.98

m. s.
Corr. Chron. + 2 20.57

	α	δ
	h. m. s.	° ′ ″
6049, B. A. C.,	17 44 52.16	—10 51 25.68

Melpomene—6049, B. A. C.,

		$\Delta\alpha$	$\Delta\delta$
	h. m. s.	m. s.	′ ″
Sid. T.	17 46 13.42	— 1 19.57	—16 57.30
	$\Delta\varrho$	.00	— .68
	p	.00	+ 4.99

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
		28.1	- -	52.7					
July 28	Melpomene - - -	30.0	42.4	54.7	17 50 42.44	5 42.862			
		32.4	- -	56.9					
		47.7	- -	12.3					
	6049, B. A. C. - -	49.5	1.9	14.6	52 3.01	1 36.660	— 1 20.57	— 66.327	
		51.7	- -	16.6					
		10.2	- -	35.0					
	Melpomene - - -	12.3	24.6	37.1	53 24.67	5 42.830			
		14.3	- -	39.5					
		27.9	- -	54.7					
	6049, B. A. C. - -	31.9	44.3	56.8	54 44.23	1 36.680	— 1 19.56	— 66.275	
		34.2	- -	58.9					
		10.6	-	35.3					
	Melpomene - - -	12.4	24.8	37.4	56 24.95	5 42.929			
		14.7	-	39.7					
		30.2	- -	55.1					
	6049, B. A. C. - -	32.4	44.8	58.3	57 44.97	1 36.642	— 1 20.02	— 66.412	
		34.7	- -	59.6					
28	Melpomene - - -	8.1	22.0	37.1	9 39 22.40	5 43.169			
	6049, B. A. C. - -	27.2	42.0	56.9	40 42.03	1 36.739	— 1 19.63	— 66.555	
	Melpomene - -	44.3	59.0	13.2	42 58.83	5 43.282			
	6049, B. A. C. - -	4.0	18.5	33.0	44 18.50	1 36.762	— 1 19.67	— 66.645	
	Melpomene - - -	8.2	22.8	37.2	45 22.73	5 43.389			
	6049, B. A. C. - -	28.0	42.5	57.2	46 42.57	1 36.789	— 1 19.84	— 66.725	
	Melpomene - - -	19.2	34.0	48.5	48 33.90	5 43.448			
	6049, B. A. C. - -	39.0	54.0	8.2	49 53.73	1 36.749	— 1 19.83	— 66.824	
	Melpomene - - -	33.2	48.0	2.0	52 47.40	5 43.592			
	6049, B. A. C. - -	53.4	8.3	22.3	54 8.13	1 36.801	— 1 20.73	— 66.916	
Aug. 1	Weisse XVII, 810 -	7.0	21.2	36.0	9 46 21.40	1 29.718	+ 1 2.10	— 77.558	
	Melpomene - -	9.0	23.5	38.0	47 23.50	5 47.151			
	Weisse XVII, 810 -	39.0	53.0	8.0	49 53.33	1 29.625	+ 1 1.80	— 77.482	
	Melpomene - - -	40.9	55.0	9.5	50 55.13	5 46.982			
	Weisse XVII, 810 -	38.1	53.0	8.0	52 53.03	1 29.640	+ 1 2.20	— 77.770	
	Melpomene - - -	41.0	55.0	9.7	53 55.23	5 47.285			
	Weisse XVII, 810 -	52.1	6.9	21.2	56 6.73	1 29.602	+ 1 1.77	— 77.795	
	Melpomene - - -	54.0	8.5	23.0	57 8.50	5 47.272			
	Weisse XVII, 810 -	16.2	30.2	45.0	58 30.47	1 29.580	+ 1 1.73	— 77.750	
	Melpomene - - -	17.5	32.0	47.1	59 32.20	5 47.205			
	Weisse XVII, 810 -	5.1	19.5	34.0	10 1 19.53	1 29.589	+ 1 2.04	— 77.880	
	Melpomene - - -	7.0	21.7	36.0	2 21.57	5 47.344			
	Weisse XVII, 810 -	48.1	2.0	17.0	4 2.37	1 29.602	+ 1 1.10	— 77.853	
	Melpomene - - -	49.0	3.4	18.0	5 3.47	5 47.330			
	Weisse XVII, 810 -	36.2	51.0	6.0	7 51.07	1 29.510	+ 1 1.26	— 77.956	
	Melpomene - -	38.0	52.0	7.0	8 52.33	5 47.341			

RESULTS:

Corr. Chron. — 1 m. 31.77 s.

	α	δ
	h. m. s.	° ′ ″
6049, B. A. C.,	17 44 52.16	−10 51 25.68

Melpomene—6049, B. A. C.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 44 17.28	— 1 19.94	−17 5.66
	Δt	— .21	
	Δϱ	.00	— .69
	p	+ .04	+ 4.97

Corr. Chron. — 0 m. 16.07 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XVII, 810,	17 40 52.46	−11 17 8.02

Melpomene—Weisse XVII, 810,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 10 51.77	+ 1 1.55	−19 58.80
	Δt	+ .16	
	Δϱ	— .01	— .87
	p	+ .11	+ 4.89

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs	m. s.	revs.
Aug. 1	Weisse XVII, 810	36.0	50.2	5.7	10 10 50.63	1 29.631	+ 1 1.07	— 77.924
	Melpomene	37.1	52.0	6.0	11 51.70	5 47.430		
	Weisse XVII, 810	53.1	8.0	22.0	13 7.70	1 29.540	+ 1 1.67	— 78.053
	Melpomene	55.1	9.0	24.0	14 9.37	5 47.468		
	Weisse XVII, 810	1.2	15.0	29.1	29 15.10	1 29.362	+ 1 1.57	— 78.383
	Melpomene	2.0	17.0	31.0	30 16.67	5 47.620		
	Weisse XVII, 810	45.4	0.0	14.2	33 59.87	1 29.374	+ 1 1.30	— 78.403
	Melpomene	46.5	1.0	16.2	35 1.17	5 47.652		
	Weisse XVII, 810	9.4	24.0	39.1	37 24.16	1 29.332	+ 1 1.04	— 78.535
	Melpomene	11.0	25.0	39.6	38 25.20	5 47.742		
	Weisse XVII, 810	38.2	53.2	7.0	39 52.73	1 29.375	+ 1 1.00	— 78.620
	Melpomene	39.0	54.0	8.2	40 53.73	5 47.870		
2	(* 32) W.	31.0	45.0	0.0	10 2 45.33	4 32.631	+ 0 15.70	+ 25.070
	Melpomene	46.7	1.4	15.0	3 1.03	2 33.470		
	(* 32) W.	29.0	44.0	58.0	3 43.73	4 32.732	+ 0 15.80	+ 24.989
	Melpomene	45.2	59.2	14.2	3 59.53	2 33.652		
	(* 32) W.	42.0	57.0	11.0	5 56.67	4 32.533	+ 0 15.73	+ 24.872
	Melpomene	58.2	12.0	27.0	6 12.40	2 33.570		
	(* 32) W.	2.0	16.0	30.7	7 16.23	4 32.629	+ 0 15.50	+ 24.930
	Melpomene	17.2	32.0	46.0	7 31.73	2 33.608		
	(* 32) W.	33.4	48.0	2.0	9 47.80	4 32.670	+ 0 15.67	+ 24.815
	Melpomene	49.2	3.2	18.0	10 3.47	2 33.764		
	(* 32) W.	6.2	20.1	35.0	11 20.47	4 32.729	+ 0 15.36	+ 24.889
	Melpomene	21.3	36.0	50.2	11 35.83	2 33.749		
	(* 32) W.	22.0	37.2	51.0	12 36.73	4 32.610	+ 0 15.70	+ 24.808
	Melpomene	38.0	52.3	7.0	12 52.43	2 33.711		
	(* 32) W.	14.0	28.0	43.0	15 28.33	4 32.560	+ 0 15.40	+ 24.674
	Melpomene	29.2	44.0	58.0	15 43.73	2 33.795		
	(* 32) W.	2.0	17.0	31.0	17 16.67	4 32.695	+ 0 15.38	+ 24.825
	Melpomene	..	32.0	47.0	17 32.05	2 33.779		
	(* 32) W.	21.0	35.0	50.2	18 35.40	4 32.752	+ 0 15.67	+ 24.700
	Melpomene	36.2	51.0	6.0	18 51.07	2 33.961		
3	Melpomene	38.1	52.0	7.0	10 7 52.37	1 39.723		
	Weisse XVII, 834	28.0	42.5	57.0	8 42.50	5 37.932	— 0 50.13	+ 58.334
	Melpomene	12.0	27.2	41.0	10 26.73	1 39.652		
	Weisse XVII, 834	2.5	17 0	31.7	11 17.07	5 37.891	— 0 50.34	+ 58.358
	Melpomene	1.0	15.1	29.1	12 15.07	1 39.781		
	Weisse XVII, 834	51.2	6.0	20.0	13 5.73	5 37.872	— 0 50.67	+ 58.216
	Melpomene	59.6	14.0	29.1	14 14.23	1 39.718		
	Weisse XVII, 834	50.0	5.0	19.2	15 4.73	5 37.818	— 0 50.50	+ 58.225
	Melpomene	29.1	43.0	58.0	16 43.37	1 39.821		
	Weisse XVII, 834	19.1	34.0	48.6	17 33.90	5 37.828	— 0 50.53	+ 58.132

RESULTS.

Corr. Chron. — 0 m. s. 15.68

	a	δ
	h. m. s.	° ′ ″
(*32) W.,	17 41 20.13	−10 51 24.00

Melpomene—(* 32) W.

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 10 28.65	+ 0 15.59	+ 6 22.04
	Δt	+ .04	
	Δϱ	.00	+ .27
	p	+ .11	+ 4.82

Corr. Chron. — 0 m. s. 15.49

	a	δ
	h. m. s.	° ′ ″
Weisse XVII, 834,	17 42 8.05	−12 6 37.51

Melpomene—Weisse XVII, 834,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 17 15.62	— 0 50.49	+14 54.28
	Δt	— .14	
	Δϱ	+ .01	+ .82
	p	+ .12	+ 4.89

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 3	Melpomene	12.0	26.6	40.9	10 18 26.50	1 39.402			
	Weisse XVII, 834	2.7	17.0	32.0	19 17.23	5 37.462	− 0 50.73	+ 58.185	
	Melpomene	45.7	0.0	14.6	21 0.10	1 39.399			
	Weisse XVII, 834	36.0	50.2	5 0	21 50.40	5 37.485	− 0 50.30	+ 58.211	
	Melpomene	35.0	49.0	4.1	22 49.37	1 39.559			
	Weisse XVII, 834	25.7	40.0	55.1	23 40.26	5 37.452	− 0 50.89	+ 58.018	
	Melpomene	30.2	44.9	59.0	24 44.70	1 39.454			
	Weisse XVII, 834	20.2	35.0	49.2	25 34.80	5 37.391	− 0 50.10	+ 58.062	
	Melpomene	24.1	39.0	53.0	26 38.70	1 39.559			
	Weisse XVII, 834	15.0	29.3	44.0	27 29.43	5 37.543	− 0 50.73	+ 58.109	
6	Melpomene	28.0	42.0	57.0	9 12 42.33	2 38.718			
	Weisse XVII, 834	- -	12.5	27.0	14 12.83	1 29.173	− 1 30.50	+ 26.616	Corr. Chron. − 0 15.35 (m. s.)
	Melpomene	25.1	39.1	54.0	17 39.40	3 25.995			
	Weisse XVII, 834	- -	9.0	24.0	19 9.24	1 29.061	− 1 29.84	+ 26.998	Weisse XVII, 834, α 17 h 42 m 8.01 s, δ −12° 6′ 37.45″
	Melpomene	12.5	27.1	42.0	23 27.20	2 39.141			Melpomene—Weisse XVII, 834,
	Weisse XVII, 834	43.0	57.0	12.0	24 57.33	1 29.310	− 1 30.13	+ 26.902	
	Melpomene	43.1	57.2	11.2	26 57.20	3 26.172			
	Weisse XVII, 834	13.0	27.0	42.0	28 27.33	1 29.321	− 1 30.13	+ 26.915	M. T. 9 h 30 m 23.59 s; Δα − 1 m 30.43 s; Δδ + 6′ 55.86″; Δt − .24; Δρ + .03 + .30; ρ + .08 + 4.86
	Melpomene	30.2	44.3	59.0	29 44.50	3 26.330			
	Weisse XVII, 834	0.5	15.1	29.2	31 14.93	1 29.289	− 1 30.43	+ 27.105	
	Melpomene	33.2	48.1	3.0	33 48.10	3 26.310			
	Weisse XVII, 834	4.0	18.2	33.0	35 18.40	1 29.322	− 1 30.30	+ 27.052	
	Melpomene	58.1	13.0	27.2	36 12.77	3 26.459			
	Weisse XVII, 834	29.2	43.0	58.0	37 43.40	1 29.370	− 1 30.63	+ 27.153	
	Melpomene	56.2	10.7	25.0	39 10.63	3 26.601			
	Weisse XVII, 834	26.2	41.0	55.0	40 40.73	1 29.410	− 1 30.10	+ 27.255	
	Melpomene	1.2	16.0	30.5	41 25.90	3 26.635			
	Weisse XVII, 834	42.0	56.2	11.0	42 56.40	1 29.441	− 1 30.50	+ 27.258	
	Melpomene	7.0	21.2	36.0	45 21.40	3 26.735			
	Weisse XVII, 834	37.5	52.0	7.0	46 52.16	1 29.483	− 1 30.76	+ 27.316	
6	Melpomene	48.8 51.0 53.4	- - 3.6 - -	13.7 16.4 18.3	19 0 3.57	3 27.262			
	Weisse XVII, 834	19.9 22.0 24.0	- 34.4 - -	44.6 46.8 49.0	1 34.38	1 29.678	− 1 30.81	+ 27.648	
	Melpomene	54.6 56.7 59.0	- - 9.3 - -	19.6 21.8 24.0	3 9.81	3 27.270			
	Weisse XVII, 834	25.4 27.4 29.8	- - 40.2 - -	50.6 52.6 55.0	4 40.13	1 29.700	− 1 30.32	+ 27.634	

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
		39.1	- -	- -					
Aug. 6	Melpomene - - -	41.4	53.6	6.3	19 5 53.73	3 27.402			
		43.3	- -	8.4					
		- -		35.0					
	Weisse XVII, 834 -	- -	24.4	37.3	7 24.55	1 29.741	— 1 30.82	+ 27.725	
		14.3	- -	39.3					
		16.0	- -	41.0					
	Melpomene - - -	18.3	30.5	42.2	8 30.23	3 27.352			
		20.4	- -	44.4					
		47.0	- -	12.6					
	Weisse XVII, 834	49.0	1.4	14.3	10 1.46	1 29.620	— 1 31.23	+ 27.796	
		51.1	- -	16.1					
		58.8	- -	- -					
	Melpomene - - -	0.7	13.6	25.7	11 13.40	3 27.481			
		3.5	- -	28.0					
		29.6	- -	54.5					
	Weisse XVII, 834 -	31.5	44.0	56.8	12 44.15	1 29.650	— 1 30.75	+ 27.895	
		34.0	- -	59.0					
		31.4	- -	56.4					
	Melpomene - - -	33.6	45.6	58.3	13 45.82	3 27.618			
		35.6	- -	0.4					
		2.3	- -	27.4					
	Weisse XVII, 834 -	4.4	16.6	29.6	15 16.81	1 29.775	— 1 30.99	+ 27.907	
		6.3	- -	31.6					
		- -	- -	33.1					
	Melpomene - - -	10.3	22.9	35.4	16 22.82	3 27.605			Corr. Chron. + 2 m. s. 55.60
		12.5	- -	37.4					
		39.1	- -	4.3					α h. m. s. δ ° ′ ″
	Weisse XVII, 834 -	41.2	53.7	6.3	17 53.74	1 29.622	— 1 30.92	+ 28.047	Weisse XVII, 834, 17 42 8.01 −12 6 37.45
		43.4	- -	8.4					Melpomene—Weisse XVII, 834,
		35.0	- -	60.0					△α △δ
	Melpomene - - -	37.5	49.6	2.3	20 49.69	3 27.738			h. m. s. m. s. ′ ″
		39.6	- -	4.3					Sid. T. 19 14 26.13 — 1 30.88 + 7 8.46
									Δρ + .01 + .23
		6.1	- -	31.0					p + .13 + 4.80
	Weisse XVII, 834 -	8.3	20.8	33.1	22 20.60	1 29.671	— 1 30.91	+ 28.131	
		10.4	-	35.1					
		31.0	- -	56.0					
	Melpomene - - -	33.4	45.6	58.4	23 45.72	3 27.791			
		35.4	- -	0.4					
		2.5	- -	27.2					
	Weisse XVII, 834 -	4.4	16.6	29.7	25 16.86	1 29.740	— 1 31.14	+ 28.115	
		6.7	- -	31.6					
									Corr. Chron. — 0 m. s. 15.81
									α h. m. s. δ ° ′ ″
7	Melpomene - - -	58.0	12.0	27.0	10 32 12.33	5 30.389			
	Weisse XVII, 834 -	38.0	52.5	7.0	33 52.57	2 16.091	— 1 40.24	— 57.352	Weisse XVII, 834, 17 42 8.00 −12 6 37.42
	Melpomene - -	28.2	43.0	57.0	43 42.73	5 30.441			Melpomene—Weisse XVII, 834,
	Weisse XVII, 834 -	9.5	23.5	38.2	45 23.73	1 33.181	— 1 41.00	— 57.385	△α △δ
	Melpomene - - -	29.2	44.0	58.0	47 43.73	5 30.590			h. m. s. m. s. ′ ″
	Weisse XVII, 834 -	9.5	24.0	39.1	49 24.20	1 33.201	— 1 40.47	— 57.514	M. T. 10 48 55.72 — 1 40.41 −14 45.09
									Δt — .27
	Melpomene - - -	8.2	23.0	37.2	50 22.80	5 30.649			Δρ — .02 — .89
	Weisse XVII, 834 -	48.2	3.0	17.2	52 2.80	1 33.171	— 1 40.00	— 57.603	p + .18 + 4.71

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 7	Melpomene	38.1	53.1	8.1	10 53 53.10	5 30.761			
	Weisse XVII, 834	19.2	33.6	48.0	55 33.60	1 33.168	— 1 40.50	— 57.718	
	Melpomene	20.4	35.1	49.6	56 35.03	5 30.781			
	Weisse XVII, 834	1.0	15.3	30.2	58 15.50	1 33 210	— 1 40.47	— 57.696	
	Melpomene	36.2	51.0	5.7	59 50.96	5 30.821			
	Weisse XVII, 834	16.5	31.0	46.0	11 1 31.16	1 33.105	— 1 40.20	— 57.841	
12	Melpomene	1.0	15.0	- -	28 15.00	4 30.572			
	Weisse XVII, 835	- -	15.0	29.0	30 15.00	2 35.472	— 2 0.00	— 21.009	Corr. Chron. — 0 m. s. 16.74
	Melpomene	11.0	26.0	40.0	32 25.67	4 30.510			α δ
	Weisse XVII, 835	- -	25.0	40.0	34 24.93	2 35.345	— 1 59.26	— 21.074	Weisse XVII, 835, h. m. s. 17 42 13.14 — 12° 53′ 8″.94
	Melpomene	24.0	38.5	53.2	37 38.57	4 30.570			Melpomene—Weisse XVII, 835
	Weisse XVII, 835	24.0	37.5	- -	39 37.55	2 35.500	— 1 59.04	— 20.979	△α △δ
	Melpomene	27.1	41.5	56.0	42 41.53	4 30.782			
	Weisse XVII, 835	26.5	41.0	55.0	44 40.83	2 35.270	— 1 59.30	— 21.421	M. T. h. m. s. 9 59 38.63 — 1 m. s. 59.48 — 5′ 32″.44
									Δt — .33
	Melpomene	19.2	34.0	48.0	46 33.73	4 30.679			Δϱ — .01 — .28
	Weisse XVII, 835	18.5	33.0	48.0	48 33.16	2 35.372	— 1 59.43	— 21.216	p + .14 + 4.52
	Melpomene	- -	- -	44.0	58 29.30	3 43.900			
	Weisse XVII, 835	14.0	29.0	43.0	0 28.67	2 35.410	— 1 59.37	— 21.483	
	Melpomene	32.0	46.0	1.0	3 46.33	3 44.049			
	Weisse XVII, 835	32.0	46.0	1.0	5 46.33	2 35.238	— 2 0.00	— 21.804	
	Melpomene	43.0	58.0	12.2	20 57.73	3 41.658			
	Weisse XVII, 835	42.0	57.0	11.5	22 56.83	2 32.483	— 1 59.10	— 22.168	
	Melpomene	16.2	30.5	44.1	24 30.26	4 28.591			
	Weisse XVII, 835	- -	29.5	44.2	26 29.54	2 32.310	— 1 59.28	— 22.190	
	Melpomene	24.0	38.5	54.0	29 38.83	4 28.640			
	Weisse XVII, 835	24.0	38.4	53.0	31 38.47	2 32.325	— 1 59 64	— 22.224	
	Melpomene	57.4	12.2	27.0	34 12.20	4 28.598			
	Weisse XVII, 835	57.5	12.0	26.7	36 12.07	2 32.150	— 1 59.87	— 22.357	
13	Melpomene	48.2	2.2	17.0	9 55 2.47	4 44.292			
	Weisse XVII, 835	45.0	59.0	13.5	56 59.16	1 37.579	— 1 56.69	— 49.693	Corr. Chron. — 0 m. s. 16.12
	Melpomene	51.3	6.0	20.2	58 5.83	4 44.372			α δ
	Weisse XVII, 835	28.0	2.0	16.9	10 0 2.30	1 37.482	— 1 56.47	— 49.870	Weisse XVII, 835, h. m. s. 17 42 13.13 — 12° 53′ 8″.93
	Melpomene	14.7	29.3	43.2	1 29.07	4 44.310			Melpomene—Weisse XVII, 835,
	Weisse XVII, 835	11.2	26.1	40.0	3 25.77	1 37.530	— 1 56.70	— 49.760	△α △δ
	Melpomene	10.0	25.0	39.5	4 24.83	4 44.365			
	Weisse XVII, 835	- -	21.2	36.0	6 21.20	1 37.422	— 1 56.37	— 49.923	M. T. h. m. s. 10 11 0.78 — 1 m. s. 56.62 — 12′ 47″.96
									Δt — .31
	Melpomene	31.0	45.2	0.3	11 45.50	4 44.380			Δϱ — .02 — .68
	Weisse XVII, 835	28.0	42.0	57.0	13 42.33	1 37.590	— 1 56.83	— 49.770	p + .16 + 4.48
	Melpomene	34.6	49.2	4.0	14 49.26	4 44.500			
	Weisse XVII, 835	31.2	46.0	1.0	16 46.07	1 37.519	— 1 56.81	— 49.961	
	Melpomene	27.1	41.6	56 2	17 41.63	4 44.721			
	Weisse XVII, 835	24.0	38.0	53.1	19 38.37	1 37.604	— 1 56.74	— 50.097	
	Melpomene	6.0	20.2	35.1	20 20.43	4 44.685			
	Weisse XVII, 835	2.8	17.0	32.0	22 17.26	1 37.589	— 1 56.83	— 50.076	

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 13	Melpomene	47.2	-	16.0	10 23 1.60	4 44.852		
	Weisse XVII, 835	43.5	58.0	12.7	24 58.06	1 37.551	− 1 56.46	− 50.281
	Melpomene	54.0	8.0	23.0	26 8.33	4 44.870		
	Weisse XVII, 835	50.0	5.0	19.0	28 4.67	1 37.619	− 1 56.34	− 50.231
14	Weisse XVII, 787	12.1	27.0	41.2	9 14 26.77	5 49.500	+ 0 36.03	+ 75.390
	Melpomene	48.0	3.0	17.4	15 2.80	1 34.235		
	Weisse XVII, 787	35.0	50.2	4.0	15 49.73	5 49.552	+ 0 36.60	+ 75.252
	Melpomene	12.0	26.0	41.0	16 26.33	1 34.425		
	Weisse XVII, 787	20.2	34.2	49.0	17 34.47	5 49.612	+ 0 36.36	+ 75.267
	Melpomene	56.1	11.2	25.2	18 10.83	1 34.470		
	Weisse XVII, 787	48.9	4.0	18.5	19 3.80	5 49.550	+ 0 35.77	+ 75.244
	Melpomene	25 0	39.7	54.0	19 39.57	1 34.431		
	Weisse XVII, 787	54.2	9.1	23.8	21 9.03	5 49.532	+ 0 36.04	+ 75.156
	Melpomene	31.0	44.7	59.5	21 45.07	1 34.501		
	Weisse XVII, 787	16.2	30.4	45.0	23 30.53	5 49.699	+ 0 36.04	+ 75.092
	Melpomene	52.0	6.5	21.2	24 6.57	1 34.732		
	Weisse XVII, 787	2.1	17.0	31.0	25 16.70	5 49.669	+ 0 35.73	+ 75.072
	Melpomene	38.0	52.2	7.1	25 52.43	1 34.722		
	Weisse XVII, 787	44.2	59.1	13.0	26 58.77	5 49.735	+ 0 36.13	+ 75.081
	Melpomene	10.6	35.1	49.0	27 34.90	1 34.779		
	Weisse XVII, 787	51.6	5.0	19.5	29 5.37	5 49.580	+ 0 36.03	+ 74.860
	Melpomene	27.0	41.0	56.2	29 41.40	1 34.845		
	Weisse XVII, 787	28.1	43.0		30 43.00	5 49.642	+ 0 36.07	+ 75.005
	Melpomene	4.0	19.2	34.0	31 19.07	1 34.762		
	Weisse XVII, 787	14.6	29.1	44.0	34 29.23	5 49.700	+ 0 35.94	+ 74.957
	Melpomene	51.0	5.0	19.5	35 5.17	1 34.868		
	Weisse XVII, 787	0.7	14.3	29.2	36 14.73	5 49.728	+ 0 36.54	+ 74.853
	Melpomene	37.0	51.1	5.7	36 51.27	1 35.000		
	Weisse XVII, 787	21.3	36.2	50.5	43 36.00	5 49.715	+ 0 36.40	+ 74.690
	Melpomene	58.0	12.0	27.2	44 12.40	1 35.150		
	Weisse XVII, 787	8.2	23.1	37.0	45 22.77	5 49.758	+ 0 36.23	+ 74.823
	Melpomene	44.5	58.5	14.0	45 59.00	1 35.060		
15	Weisse XVII, 787	52.0	7.0	21.5	8 56 6.83	5 39.472	+ 0 42.60	+ 46.232
	Melpomene	35.0	49.2	4.1	56 49.43	2 36.294		
	Weisse XVII, 787	34.6	49.1	4.0	57 49.23	5 39.488	+ 0 43.37	+ 46.202
	Melpomene	18.0	32.7	47.1	58 32.60	2 36.340		
	Weisse XVII, 787	3.1	18.1	32.7	59 17.97	5 39.500	+ 0 42.96	+ 46.129
	Melpomene	46.8	0.0	16.0	9 0 0.93	2 36.425		
	Weisse XVII, 787	8.0	23.1	37.0	1 22.70	5 39.421	+ 0 43.03	+ 46.075
	Melpomene	51.0	6.2	20.0	2 5.73	2 36.400		
	Weisse XVII, 787	19.3	34.2	9.1	3 34.20	5 39.469	+ 0 43.13	+ 46.173
	Melpomene	3.0	17.0	32.0	4 17.33	2 36.350		
	Weisse XVII, 787	46.9	2.0	16.8	5 1.90	5 39.472	+ 0 43.20	+ 46.081
	Melpomene	31.0	45.0	59.3	5 45.10	2 36.445		

RESULTS.

Corr. Chron. − 0 m. s. 17.38

	α h. m. s.	δ ° ′ ″
Weisse XVII, 787,	17 39 44.75	−13 32 50.65

Melpomene—Weisse XVII, 787,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 27 41.68	+ 0 36.14	+19 13.53
		Δt + .10	
		Δρ + .02	+ .93
		p + .11	+ 4.55

Corr. Chron. − 0 m. s. 17.40

	α h. m. s.	δ ° ′ ″
Weisse XVII, 787,	17 39 44.73	−13 32 50.68

Melpomene—Weisse XVII, 787,

	h. m. s.	Δα m s.	Δδ ′ ″
M. T.	9 15 0.17	+ 0 43.07	+11 44.96
		Δt + .12	
		Δρ + .01	+ .56
		p + .10	+ 4.51

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 15	Weisse XVII, 787	15.8	30.0	45.1	9 6 30.30	5 39.410	+ 0 43.07	+ 45.982	
	Melpomene	59.1	13.0	28.0	7 13.37	2 36.482			
	Weisse XVII, 787	45.1	59.5	14.6	7 59.73	5 39.410	+ 0 42.84	+ 45.952	
	Melpomene	28.1	42.6	57.0	8 42.57	2 36.512			
	Weisse XVII, 787	10 5	25.1	39.6	9 25.07	5 39.512	+ 0 43.36	+ 46.026	
	Melpomene	54.1	8.2	23.0	10 8.43	2 36.540			
	Weisse XVII, 787	47.5	2.0	17.0	11 2.17	5 39.518	+ 0 43.23	+ 46.054	
	Melpomene	31.0	45.0	0.2	11 45.40	2 36.518			
	Weisse XVII, 787	23.5	38.2	53.1	16 68.27	5 39.472	+ 0 43.13	+ 45.826	
	Melpomene	7.1	21.0	36.1	17 21.40	2 33.700			
	Weisse XVII, 787	16.1	31 0	45.1	18 30.73	5 39.450	+ 0 42.97	+ 45.744	
	Melpomene	59.1	14.0	28.0	19 13.70	2 36.760			
	Weisse XVII, 787	49.0	4.2	19.0	20 4.07	5 39.352	+ 0 42.83	+ 45.668	
	Melpomene	31.9	47.1	1.7	20 46.90	2 36.738			
	Weisse XVII, 787	6.0	20.2	35.0	22 20.40	5 39.510	+ 0 43.07	+ 45.742	
	Melpomene	49.0	3.2	18.2	23 3.47	2 36.822			
	Weisse XVII, 787	39.0	54.0	9.0	23 54.00	5 39.586	+ 0 42.73	+ 45.812	
	Melpomene	22.0	37.0	51.2	24 36.73	2 36.828			
	Weisse XVII, 787	15.0	29.3	44.0	26 29.43	5 39.628	+ 0 43.30	+ 45.733	
	Melpomene	58.0	13.0	27.2	27 12.73	2 36.949			
	Weisse XVII, 787	8.5	23.1	38.0	28 23.20	5 39.565	+ 0 43.20	+ 45.560	
	Melpomene	52.1	6.1	21.0	29 6.40	2 37.059			
	Weisse XVII, 787	3.0	18.0	33.0	30 18.00	5 39.499	+ 0 43.33	+ 45.415	
	Melpomene	47.0	1.0	16.0	31 1.33	2 37.138			
	Weisse XVII, 787	22.0	37.1	52.0	32 37.03	5 39.642	+ 0 42.84	+ 45.524	
	Melpomene	6.0	19.6	34.0	33 19.87	2 37.172			
	Weisse XVII, 787	50.2	4.5	19.5	34 4.73	5 39.640	+ 0 43.29	+ 45.413	
	Melpomene	- -	47.8	2.0	34 48.02	2 37.281			
17	Weisse XVII, 787	53.2	7.2	22.0	11 5 7.47	2 38.851	+ 1 4.06	— 10.789	
	Melpomene	56.9	11.5	26.2	6 11.53	3 41.055			
	Weisse XVII, 787	14.3	29.3	44.1	7 29.23	2 38.885	+ 1 3.80	— 10.759	
	Melpomene	18.2	33.0	47.9	8 33.03	3 41.119			
	Weisse XVII, 787	8.1	22.5	37.2	9 22.60	2 38.861	+ 1 4.30	— 10.784	
	Melpomene	12.0	27.1	41.6	10 26.90	3 41.070			
	Weisse XVII, 787	8.0	23.0	37.2	11 22.73	2 38.661	+ 1 4.27	— 10.625	
	Melpomene	12.0	27.0	42.0	12 27.00	3 41.029			
	Weisse XVII, 787	10.2	24.0	39.2	13 24.47	2 38.592	+ 1 4.56	— 9.615	
	Melpomene	14.0	29.1	44.0	14 29.03	3 41.970			
	Weisse XVII, 787	4.1	19.0	33.2	15 18.77	2 38.572	+ 1 4.03	— 9.655	
	Melpomene	8.2	22.0	38.0	16 22.80	3 41.910			
	Weisse XVII, 787	54.0	8.2	23.0	17 8.40	2 38.402	+ 1 4.60	— 9.754	
	Melpomene	58.0	13.0	28.0	18 13.00	3 41.641			
	Weisse XVII, 787	12.2	26.2	41.6	19 26.67	2 38.238	+ 1 4.39	— 9.283	
	Melpomene	16.2	31.0	46.6	20 31.06	3 41.948			
	Weisse XVII, 787	1.0	16.2	31.0	21 16.07	2 38.378	+ 1 3.93	— 9.559	
	Melpomene	5.0	20.0	35.0	22 20.00	3 41.812			

Corr. Chron. — 0 m. 17.17 s.

	α	δ
Weisse XVII, 787,	h. m. s. 17 39 44.67	° ′ ″ —13 32 50.75

Melpomene—Weisse XVII, 787,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 16 35.27	+ 1 4.30	— 2 32.93
	Δt	+ .17	
	Δϱ	.00	— .15
	p	+ .18	+ 4.36

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 17	Weisse XVII, 787	59.5	14.2	29.0	11 23 14.23	2 38.030	+ 1 4.30	— 9 358
	Melpomene	4.1	18.5	33.0	24 18.53	3 41.665		
	Weisse XVII, 787	25.1	39.0	. .	30 39.00	2 37.782	+ 1 5.00	— 9.275
	Melpomene	29.0	44.0	59.0	31 44.00	3 41.500		
18	Weisse XVII, 787	35.5	53.6	8.0	8 40 53.37	2 40.565	+ 1 16.36	— 41.720
	Melpomene	55.0	10.0	24.2	42 9.73	5 39.231		
	Weisse XVII, 787	59.2	13.2	29.1	43 13.83	2 40.490	+ 1 16.74	— 41.855
	Melpomene	16.0	30.7	45.0	44 30.57	5 39.291		
	Weisse XVII, 787	19.2	34.1	48.7	45 34.00	2 40.565	+ 1 16.23	— 41.724
	Melpomene	35.7	50.0	5.0	46 50.23	5 39.235		
	Weisse XVII, 787	23.1	37.4	52.1	47 37.53	2 40.482	+ 1 16.70	— 41.950
	Melpomene	39.7	54.0	9.0	48 54.23	5 39.378		
	Weisse XVII, 787	31.2	45.2	0.2	49 45.53	2 40.468	+ 1 16.50	— 41.806
	Melpomene	47.1	2.0	17.0	51 2.03	5 39.220		
	Weisse XVII, 787	33.1	47.8	2.7	51 47.87	2 40.515	+ 1 16.36	— 41.931
	Melpomene	49.5	4.2	19.0	53 4.23	5 39.392		
	Weisse XVII, 787	37.1	50.9	6.2	53 51.40	2 40.402	+ 1 16 50	— 42.032
	Melpomene	53.1	7.9	22.7	55 7.90	5 39.380		
	Weisse XVII, 787	51.8	6.0	21.0	56 6.27	2 40.422	+ 1 16.46	— 42.004
	Melpomene	8.0	22.7	37.5	57 22.73	5 39.372		
	Weisse XVII, 787	53.2	9.2	24.6	58 9.00	2 40.458	+ 1 17.13	— 42.096
	Melpomene	11.2	26 2	41.0	59 26.13	5 39.500		
	Weisse XVII, 787	29.2	44.1	59.1	9 1 44.13	2 40.451	+ 1 16.42	— 42.161
	Melpomene	. .	0.5	15.0	3 00.55	5 39.558		
	Weisse XVII, 787	52.0	7.0	21.0	5 6.67	2 40.458	+ 1 16.63	— 42 196
	Melpomene	8.7	23.2	38.0	6 23.30	5 39.600		
	Weisse XVII, 787	16.6	31.0	46.0	7 31.20	2 40.443	+ 1 16.20	— 42.253
	Melpomene	33.0	47.5	2.7	8 47.40	5 39.642		
	Weisse XVII, 787	56.2	10.5	25.0	37 10.57	1 35.968	+ 1 16.76	— 42.721
	Melpomene	13.0	27.0	42.0	38 27.33	4 35.635		
	Weisse XVII, 787	30.0	44.8	. .	41 44.89	1 35.849	+ 1 17.01	— 42.973
	Melpomene	47.2	1.7	16.8	43 1.90	4 35.842		
	Weisse XVII, 787	55.2	9.7	24.6	44 9.83	1 35.832	+ 1 17.26	— 42.906
	Melpomene	.	27.0	41.6	45 27.09	4 35.758		
	Weisse XVII, 787	55.2	10.5	25.0	47 10.23	1 35.832	+ 1 16.97	— 42.996
	Melpomene	12.6	27.0	42.0	48 27.20	4 35.848		
19	Melpomene	26.1	41.0	55.4	8 13 40.83	1 34.723		
	Weisse XVII, 857	59.0	14.0	28.0	15 13.67	2 32.812	— 1 32.84	— 15.160
	Melpomene	36.2	50.2	5.0	18 50.47	1 34.918		
	Weisse XVII, 857	9.0	23.0	38.0	20 23.33	2 32.880	— 1 32.86	— 15.033
	Melpomene	39.1	54.0	8.4	22 53.83	1 35.112		
	Weisse XVII, 857	12.0	27.0	41.2	24 26.73	2 32.935	— 1 32.90	— 14.894
	Melpomene	44.0	. .	13.0	25 58.50	1 35.210		
	Weisse XVII, 857	17.0	31.2	46.0	27 31.40	2 33.139	— 1 32.90	— 15.000

RESULTS.

Aug. 18:

Corr. Chron. — 0 m. s. 17.06

	α (h. m. s.)	δ (° ′ ″)
Weisse XVII, 787,	17 39 44.65	—13 32 50.78

Melpomene—Weisse XVII, 787,

		△α (m. s.)	△δ (′ ″)
M. T.	9 6 43.10 (h. m. s.)	+ 1 16.64	—10 48.72
	Δt	+ .20	
	Δρ	— .01	— .52
	p	+ .10	+ 4.45

Aug. 19:

Corr. Chron. — 0 m. s. 16.43

	α (h. m. s.)	δ (° ′ ″)
Weisse XVII, 857,	17 43 12.86	—13 55 15.62

Melpomene—Weisse XVII, 857,

		△α (m. s.)	△δ (′ ″)
M. T.	8 37 46.90 (h. m. s.)	— 1 32.50	— 3 44.78
	Δt	— .25	
	Δρ	.00	— .18
	p	+ .07	+ 4.51

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 19	Melpomene - - -	27.1	41.6	56.2	8 28 41.63	1 35.468		
	Weisse XVII, 857 -	59.4	14.0	39.0	30 14.13	2 33.158	— 1 32.50	— 14.761
	Melpomene - - -	56.0	10.0	25.1	31 10.37	1 35.641		
	Weisse XVII, 857 -	28.0	43.0	58.0	32 43.00	2 33.260	— 1 32.63	— 14.690
	Melpomene - - -	34.0	9.0	23.2	35 8.73	1 35.678		
	Weisse XVII, 857 -	26.0	41.0	55.0	36 40.66	2 33.335	— 1 31.93	— 14.728
	Melpomene - - -	58.3	13.2	28.0	38 13.17	1 35.685		
	Weisse XVII, 857 -	31.0	46.0	0.0	39 45.67	2 33.298	— 1 32.50	— 14.684
	Melpomene - - -	39.1	53.3	8.2	44 53.53	1 35.873		
	Weisse XVII, 857 -	11.0	26.0	40.0	46 25.67	2 33.265	— 1 32.10	— 14.463
	Melpomene - - -	14.7	29.2	44.0	47 29.30	1 35.920		
	Weisse XVII, 857	47.0	1.9	16.2	49 1.70	2 33.300	— 1 32.40	— 14.451
	Melpomene - - -	57.0	11.0	26.0	50 11.33	1 36.071		
	Weisse XVII, 857 -	29.0	44.0	58.2	51 43.73	2 33.339	— 1 32.40	— 14.339
	Melpomene - - -	11.2	26.0	40.2	53 25.80	1 36.103		
	Weisse XVII, 857	43.2	58.2	13.2	54 58.20	2 33.340	— 1 32.40	— 14.308
	Melpomene - - -	31.2	46.0	0.0	59 45.73	1 36.228		
	Weisse XVII, 857 -	3.0	18.0	33.0	9 1 18.00	2 33.300	— 1 32.27	— 14.143
	Melpomene - - -	9.0	23.0	38.0	2 23.33	1 36.220		
	Weisse XVII, 857 -	41.0	56.0	10.3	3 55.77	2 33.250	— 1 32.44	— 14.101
26	Weisse XVII, 867 -	28.0	40.7	- -	8 7 39.62	5 50.359	+ 0 22.41	+ 62.115
	Melpomene - - -	47.1	2.0	17.0	8 2.03	1 48.360		
	Weisse XVII, 867 -	40.0	55.0	9.0	16 54.67	5 50.572	+ 0 21.66	+ 61.942
	Melpomene - - -	1.5	16.0	31.2	17 16.23	1 48.755		
	Weisse XVII, 867	42.1	57.0	11.0	18 56.70	5 50.510	+ 0 21.46	+ 61.896
	Melpomene - - -	3.5	18.0	33.0	19 18.16	1 48.739		
	Weisse XVII, 867 -	50.9	6.0	21.0	21 5.97	5 50.601	+ 0 21.70	+ 61.874
	Melpomene - -	13.0	28.0	42.0	21 27.67	1 48.852		
	Weisse XVII, 867 -	54.1	9.0	23.6	23 8.90	5 50.525	+ 0 21.10	+ 61.788
	Melpomene - - -	15.0	30.0	45.0	23 30.00	1 48.862		
	Weisse XVII, 867 -	26.0	41.0	56.0	29 41.00	5 50.670	+ 0 22.03	+ 61.753
	Melpomene - -	48.0	3.0	18.1	30 3.03	1 49.542		
	Weisse XVII, 867 -	45.0	0.0	15.1	32 0.03	5 50.695	+ 0 22.00	+ 61.600
	Melpomene - - -	7.1	22.0	37.0	32 22.03	1 49.220		
	Weisse XVII, 867 -	55.7	10.0	-	35 10.06	5 50.721	+ 0 22.92	+ 61.516
	Melpomene - - -	18.0	- -	- -	35 32.98	1 49.330		
	Weisse XVII, 867 -	33.7	48.6	3.1	38 48.47	5 50.750	+ 0 22.00	+ 61.430
	Melpomene - - -	56.0	10.2	25.2	39 10.47	1 49.445		
	Weisse XVII, 867 -	57.1	11.2	26.1	41 11.47	5 50.879	+ 0 22.03	+ 61.524
	Melpomene - - -	19.0	33.5	48.0	41 33.50	1 49.480		
	Weisse XVII, 867	28.1	43.0	57.9	43 43.00	5 50.815	+ 0 21.97	+ 61.410
	Melpomene - - -	50 0	5.0	19.9	44 4.97	1 49.530		
	Weisse XVII, 867 -	32.7	47.1	2.6	46 47.47	5 50.760	+ 0 21.88	+ 61.380
	Melpomene - - -	54.7	- -	24.0	47 9.35	1 49.505		
	Weisse XVII, 867 -	39.0	-	9.1	47 54.05	5 50.770	+ 0 22.32	+ 61.373
	Melpomene - - -	2.0	16.1	31.0	48 16.37	1 49.522		

RESULTS.

Corr. Chron. — 0 m. s. 15.69

	a	δ
	h. m. s.	° ′ ″
Weisse XVII, 867,	17 43 38.18	—14 58 53.87

Melpomene—Weisse XVII, 867,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 34 7.94	+ 0 21.97	+15 46.82
		Δt + .06	
		Δϱ + .01	+ .80
		p + .09	+ 4.37

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 26	Weisse XVII, 867	3.0	. .	32.2	8 49 17.60	5 50.735	+ 0 22.56	+ 61.341
	Melpomene . .	26.0	39.5	55.0	49 40.16	1 49.519		
	Weisse XVII, 867	51.0	. .	20.9	58 5.95	5 50.615	+ 0 21.55	+ 61.110
	Melpomene . .	13.0	. .	42.0	58 27.50	1 49.630		
29	Weisse XVII, 867	12.0	26.0	41.3	7 52 26.43	2 38.360	+ 1 59.57	— 22.784
	Melpomene . .	11.0	26.0	41.0	54 26.00	4 35.235		
	Weisse XVII, 966	25.0	39.0	54.2	56 39.40	5 35.132	— 2 13.40	+ 17.042
	Weisse XVII, 867	53.0	7.1	22.0	58 7.37	2 38.289	+ 1 59.63	— 23.023
	Melpomene . .	52.0	7.0	22.0	8 0 7.00	4 35.403		
	Weisse XVII, 966	6.8	21.1	35.5	2 21.13	5 35.278	— 2 14.13	+ 17.020
	Weisse XVII, 867	19.1	33.0	48.1	10 10 33.40	2 36.072	+ 2 2.93	— 25.466
	Melpomene . .	22.0	36.0	51.0	12 36.33	4 35.629		
	Weisse XVII, 966	32.8	47.1	2.0	14 47.30	5 32.931	— 2 10.97	+ 14.447
	Weisse XVII, 867	45.2	0.0	15.0	17 0.06	2 35.885	+ 2 3.07	— 25.584
	Melpomene . .	48.5	2.9	18.0	19 3.13	4 35.560		
	Weisse XVII, 966	59.2	14.1	28.5	21 13.93	5 32.649	— 2 10.80	+ 14.234
	Weisse XVII, 867	21.0	36.0	50.2	23 35.73	2 35.412	+ 2 3.10	— 25.839
	Melpomene . .	24.0	39.0	53.5	25 38.83	4 35.342		
	Weisse XVII, 966	34.2	49.4	4.2	27 49.26	5 32.328	— 2 10 43	+ 14.131
	Weisse XVII, 867	7.2	22.2	37.0	29 22.13	2 35.152	+ 2 3.37	— 25.909
	Melpomene . .	11.0	25.5	40.0	31 25.50	4 35.152		
	Weisse XVII, 966	21.2	36 0	51.0	33 36.06	5 31.940	— 2 10.56	+ 13.933
	Weisse XVII, 867	6.1	21.0	35.5	39 20.87	2 34.660	+ 2 3.13	— 26.031
	Melpomene . .	9.0	24.0	39.0	41 24.00	4 34.782		
	Weisse XVII, 966	19.2	35.0	49.0	43 34.40	5 31.525	— 2 10.40	+ 13.888
30	Melpomene . .	15.2	29.5	45.0	9 23 29.90	4 39.225		
	Weisse XVII, 966	51.0	5 0	20.0	25 5.36	3 39.470	— 1 35.46	— 12.671
	Melpomene . .	58.3	13.0	. .	27 13.19	4 39.315		
	Weisse XVII, 966	33.0	48.0	3.2	28 48.06	3 39.350	— 1 34.87	— 12.881
	Melpomene . .	47.3	2.0	17.3	30 2.20	4 39.320		
	Weisse XVII, 966	22.3	37.0	52.0	31 37.10	3 39.231	— 1 34.90	— 13.005
	Melpomene . .	27.2	42.0	57.2	33 42.14	4 39.329		
	Weisse XVII, 966	2.4	17.0	31.9	35 17.10	3 39.315	— 1 34.96	— 12.930
	Melpomene . .	31.0	45.2	1.0	36 45.73	4 39.249		
	Weisse XVII, 966	6.0	21.0	35.0	38 20.67	3 39.239	— 1 34.94	— 12.926
	Melpomene . .	51.2	6.0	21.0	41 6.07	4 39.332		
	Weisse XVII, 966	26.0	41.0	55.6	42 40.87	3 39.011	— 1 34.80	— 13.137
	Melpomene . .	52.0	7.1	22.0	44 7.03	4 39.235		
	Weisse XVII, 966	27.0	42.0	57.0	45 42.00	3 39.041	— 1 34.97	— 13.110
	Melpomene . .	48.7	3.2	18.0	49 3.30	4 39.272		
	Weisse XVII, 966	23.7	38.0	53.0	50 38.23	3 39.010	— 1 34.93	— 13.178
	Melpomene . .	29.2	43.5	59.0	51 43.90	4 39.302		
	Weisse XVII, 966	4.1	19.0	34.1	53 19.07	3 39.039	— 1 35.17	— 13.179
31	Melpomene . .	35.1	49.3	4.1	7 51 49.50	4 37.870		
	Weisse XVII, 966	34.0	49.0	4.0	52 49.00	1 41.939	— 0 59.50	— 38.911
	Melpomene .	33..7	48.1	3.0	53 48.26	4 37.932		
	Weisse XVII, 966	33.0	48.0	2.5	54 47.83	1 41.949	— 0 59.57	— 38.967

RESULTS.

Corr. Chron. — 0 m. s. 16.43

	a (h. m. s.)	δ (° ′ ″)
Weisse XVII, 867,	17 43 38.13	—14 58 53.87
Weisse XVII, 966,	17 47 52.83	—15 9 12.62

Melpomene—Weisse XVII, 867,

		△a (m. s.)	△δ (′ ″)
M. T.	9 43 15.11	+ 2 2.11	— 6 23.44
	Δt +	.33	
	Δϱ —	.02	— .44
	p +	.18	+ 4.14

Melpomene—Weisse XVII, 966,

		△a (m. s.)	△δ (′ ″)
M. T.	9 43 15.11	— 2 11.53	+ 3 49.88
	Δt —	.36	
	Δϱ +	.01	+ .26
	p +	.18	+ 4 .14

Corr. Chron. — 0 m. s. 13.02

	a (h. m. s.)	δ (° ′ ″)
Weisse XVII, 966,	17 47 52.83	—15 9 12.62

Melpomene—Weisse XVII, 966,

		△a (m. s.)	△δ (′ ″)
M. T.	9 37 15.14	— 1 35.00	— 3 19.83
	Δt —	.26	
	Δϱ —	.02	— .22
	p +	.18	+ 4.12

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 31	Melpomene	32.7	47.0	2.0	7 55 47.23	4 37.972		
	Weisse XVII, 966	32.0	46.0	1.0	56 46.33	1 41.960	— 0 59.10	— 38.992
	Melpomene	38.4	53.0	8.1	57 53.16	4 37.950		
	Weisse XVII, 966	37.6	52.0	7.0	58 52.20	1 41.865	— 0 59.04	— 39.065
	Melpomene	27.4	42.0	56.5	8 0 41.97	4 38.058		
	Weisse XVII, 966	26.8	41.0	56.0	1 41.26	1 41.915	— 0 59.29	— 39.123
	Melpomene	25.6	40.0	55.1	2 40.23	4 38.045		
	Weisse XVII, 966	24.0	39.0	54.1	3 39.03	1 41.891	— 0 58.80	— 39.134
	Melpomene	38.3	53.0	7.6	5 52.97	4 38.149		
	Weisse XVII, 966	37.1	52.0	7.0	6 52.03	1 41.968	— 0 59.06	— 39.151
	Melpomene	22.0	37.1	51.0	7 36.70	4 38.170		
	Weisse XVII, 966	21.7	35.0	50.0	8 35.57	1 41.895	— 0 58.87	— 39.255
	Melpomene	9.0	23.1	38.0	10 23.37	4 38.309		
	Weisse XVII, 966	7.0	22.0	36.7	11 21.90	1 41.978	— 0 58.53	— 39.311
	Melpomene	7.1	22.0	36.5	12 21.87	4 38.390		
	Weisse XVII, 966	6.0	20.7	35.5	13 20.73	1 42.000	— 0 58.86	— 39.370
	Melpomene	13.1	27.7	42.4	15 27.73	4 38.482		
	Weisse XVII, 966	11.7	26.0	41.0	16 26.23	1 42.030	— 0 58.50	— 39.432
	Melpomene	5.5	20.0	35.3	17 20.26	4 38.501		
	Weisse XVII, 966	4.0	19.0	34.2	18 19.07	1 42.029	— 0 58.81	— 39.452
	Melpomene	55.1	10.0	25.1	19 10.07	4 38.548		
	Weisse XVII, 966	54.0	8.7	23.1	20 8.60	1 42.010	— 0 58.53	— 39.518
	Melpomene	42.9	57.6	12.1	20 57.53	4 38.462		
	Weisse XVII, 966	41.6	56.0	11.0	21 56.20	1 42.045	— 0 58.67	— 39.397
	Melpomene	31.5	46.0	1.0	22 46.17	4 38.601		
	Weisse XVII, 966	29.7	44.0	59.1	23 44.26	1 42.049	— 0 58.09	— 39.532
	Melpomene	27.1	42.0	56.1	24 41.40	4 38.560		
	Weisse XVII, 966	26.0	40.0	55.1	25 40.37	1 42.050	— 0 58.97	— 39.490
	Melpomene	22.6	37.6	52.0	26 37.40	4 38.668		
	Weisse XVII, 966	21.0	35.7	50.4	27 35.70	1 42.012	— 0 58.30	— 39.636
	Melpomene	38.2	53.1	8.0	29 53.10	4 38.741		
	Weisse XVII, 966	37.0	52.0	6.5	30 51.83	1 42.067	— 0 58.73	— 39.654
	Melpomene	36.0	50.7	5.0	31 50.57	4 38.851		
	Weisse XVII, 966	34.0	49.0	3.5	32 48.83	1 42.123	— 0 58.26	— 39.708
	Melpomene	28.2	43.1	57.6	33 42.97	4 38.909		
	Weisse XVII, 966	26.8	41.0	56.0	34 41.27	1 42.077	— 0 58.30	— 39.812
Sept. 1	Melpomene	49.5	5.0	19.5	8 10 4.67	4 46.920		
	(*37) W.	11.0	- -	41.0	10 26 00	2 39.032	— 0 21.33	— 33.797
	Melpomene	45.4	0.0	15.0	13 0.13	4 47.020		
	(* 37) W.	6.4	21.0	36.0	13 21.13	2 39.099	— 0 21.00	— 33.830
	Melpomene	0.0	15.0	29.2	14 14.73	4 47.100		
	(* 37) W.	21.0	36.0	51.0	14 36.00	2 39.132	— 0 21.27	— 33.877
	Melpomene	38.1	53.0	8.0	18 53.03	4 47.122		
	(* 37) W.	59.0	13 5	28.1	19 13.53	2 39.105	— 0 20.50	— 33.926
	Melpomene	53.0	7.0	22.0	20 7.33	4 47.141		
	(* 37) W.	13.5	28.0	43.1	20 28.20	2 39.042	— 0 20.87	— 34.008

RESULTS.

Corr. Chron. — 0 m. 13.04 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XVII, 966,	17 47 52.81	—15 9 12.62

Melpomene—Weisse XVII, 966,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 12 51.08	— 0 58.79	—10 4.71
	Δt	— .16	
	Δϱ	— .01	— .51
	p	+ .08	+ 4.29

Corr. Chron. — 0 m. 12.38 s.

	α	δ
	h. m. s.	° ′ ″
(* 37) W.,	17 47 55.58	—15 17 41.78

Melpomene—(* 37) W.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 22 27.18	— 0 20.66	— 8 43.16
	Δt	— .06	
	Δϱ	— .01	— .46
	p	+ .10	+ 4.25

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 1	Melpomene	46.1	1.0	- -	8 22 1.14	4 47.181		
	(* 37) W.	7.0	21.5	36.1	22 21.53	2 39.032	— 0 20.39	— 34.058
	Melpomene	14.0	29.0	44.0	26 29.00	4 47.389		
	(* 37) W.	35.0	49.0	4.5	26 49.50	2 39.050	— 0 20.50	— 34.248
	Melpomene	58.1	- -	27.0	30 12.55	4 47.317		
	(* 37) W.	18.0	32.8	47.4	30 32.73	2 39.010	— 0 20.18	— 34.216
	Melpomene	51.2	5.7	20.0	34 5.63	4 47.479		
	(* 37) W.	11.2	26.2	40.6	34 26.00	2 39.169	— 0 20.37	— 34.219
	Melpomene	13.0	27.3	42.0	37 27.43	4 47.595		
	(* 37) W.	- -	47.5	2.7	37 47.60	2 39.292	— 0 20.17	— 34.212
2	6065, B. A. C.	33.0	48.1	3.0	8 5 48.03	5 34.372	+ 0 26.22	+ 52.526
	Melpomene	59.5	- -	29.0	6 14.25	1 41.971		
	6065, B. A. C.	54.7	9.1	24.3	11 9.37	5 34.232	+ 0 26.70	+ 52.235
	Melpomene	21.2	36.0	51.0	11 36.07	1 42.122		
	6065, B. A. C.	29.1	24.0	58.0	15 43.70	5 34.260	+ 0 26.77	+ 52.174
	Melpomene	56.0	10.2	25.2	16 10.47	1 42.211		
	6065, B. A. C.	38.1	53.0	8.0	19 53.03	5 34.280	+ 0 26.54	+ 52.235
	Melpomene	5.0	19.5	34.2	20 19.57	1 42.170		
	6065, B. A. C.	7.7	22.6	37.0	22 22.43	5 34.089	+ 0 26.90	+ 52.082
	Melpomene	35.0	49.0	4.0	22 49.33	1 42.132		
	6065, B. A. C.	58.1	13.0	28.0	25 13.03	5 34.309	+ 0 26.92	+ 52.124
	Melpomene	25.0	. -	54.9	25 39.95	1 42.310		
	6065, B. A. C.	33.6	48.3	3.0	27 48.30	5 34.221	+ 0 27.20	+ 52.038
	Melpomene	1.0	-	30.0	28 15.50	1 42.308		
	6065, B. A. C.	15.2	29.7	- -	30 29.65	5 34.248	+ 0 27.25	+ 51.895
	Melpomene	42.0	57.0	11.7	30 56.90	1 42.478		
	6065, B. A. C.	26.7	41.6	56.0	33 41.43	5 34.301	+ 0 26.90	+ 51.926
	Melpomene	54.0	8.0	23.0	34 8.33	1 42.500		
	6065, B. A. C.	40.7	55.7	10.0	36 55.47	5 34.265	+ 0 27.26	+ 51.851
	Melpomene	8.0	23.0	37.2	37 22.73	1 42.539		
	6065, B. A. C.	53.0	7.9	- -	9 31 7.90	5 30.338	+ 0 28.60	+ 50.923
	Melpomene	22.0	36.5	51.0	31 36.50	1 39.540		
	6065, B. A. C.	3.2	18.1	- -	34 18.10	5 30.370	+ 0 29.07	+ 50.990
	Melpomene	32.3	47.0	2.2	34 47.17	1 39.505		
	6065, B. A. C.	19.2	33.6	- -	36 33.60	5 30.398	+ 0 29.20	+ 50.945
	Melpomene	48.0	3.0	17.4	37 2.80	1 39.580		
	6065, B. A. C.	32.2	47.2	- -	40 47.20	5 29.965	+ 0 28.77	+ 50.812
	Melpomene	1.0	15.9	31.0	41 15.97	1 39.278		
5	6065, B. A. C.	34.9	49.0	4.0	7 27 49.00	3 39.051	+ 2 42.07	— 28.106
	1209, Madrass	4.0	18.0	73.0	28 18.33	1 39.979	+ 2 12.74	— 57.342
	Melpomene	16.0	31.2	46.0	30 31.07	5 37.196		
	6065, B. A. C.	50.9	5.0	20.0	33 5.30	3 39.081	+ 2 42.53	— 28.302
	1209, Madrass	20.0	34.2	49.4	33 34.53	1 39.850	+ 2 13.30	— 57.597
	Melpomene	33.0	48.0	2.5	35 47.83	5 37.322		
	6065, B. A. C.	6.6	21.3	35.7	38 21.20	3 39.001	+ 2 42.20	— 28.520
	1209, Madrass	35.6	50.0	5.5	38 50.37	1 39.901	+ 2 13.03	— 57.684
	Melpomene	48.5	3.7	18.0	41 3.40	5 37.460		

RESULTS.

m. s.
Corr. Chron. — 0 12.16

	α	δ
	h. m. s.	° ′ ″
6065, B. A. C.,	17 47 49.81	—15 46 48.64

Melpomene—6065, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 43 57.52	+ 0 27.45	+13 15.65
	Δt	+ .08	
	Δρ	+ .02	+ .75
	p	+ .12	+ 4.19

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 5	6065, B. A. C.	9.0	23.2	38.8	7 43 23.67	3 38.820	+ 2 42.83	— 28.661
	1209, Madrass	39.0	53.1	8.0	43 53.37	1 39.880	+ 2 13.13	— 57.665
	Melpomene	52.0	6.5	21.0	46 6.50	5 37.420		
	6065, B. A. C.	7.2	22.0	37.0	49 22.07	3 39 181	+ 2 42.63	— 28.661
	1209, Madrass	37.0	51.0	6.0	49 51.03	1 40.001	+ 2 13.67	— 57.905
	Melpomene	50.0	5.0	19.1	52 4.70	5 37.781		
	6065, B. A. C.	5.5	20.0	35.0	55 20.17	3 39.271	+ 2 43.53	— 28.661
	1209, Madrass	35.0	49.5	5.0	55 49.83	1 40.130	+ 2 13.87	— 57.866
	Melpomene	49.1	4.0	18.0	58 3.70	5 37.871		
	6065, B. A. C.	29.5	44.0	59.0	8 1 44.16	3 39.242	+ 2 43.94	— 28.869
	1209, Madrass	59.0	13.0	28.7	2 13.57	1 40.288	+ 2 14.53	— 57.887
	Melpomene	13.2	28.1	43.0	4 28.10	5 38.050		
	6065, B. A. C.	24.1	38.2	53.5	7 38.60	3 39.278	+ 2 43.57	— 28.905
	1209, Madrass	53.5	7.5	22.0	8 7.67	1 40.070	+ 2 14.50	— 58.177
	Melpomene	7.5	22.5	36.5	10 22.17	5 38.122		
	6065, B. A. C.	53.0	7.5	22.5	13 7.67	3 39.185	+ 2 43.70	— 29.115
	1209, Madrass	22.0	37.0	52.0	13 37.00	1 40.137	+ 2 14.37	— 58.227
	Melpomene	36.6	51.5	6.0	15 51.37	5 38.239		
7	Melpomene	2.0	17.0	32.0	7 30 17.00	3 41.678		
	32986, Lalande	29.0	43.0	58.0	31 43.33	5 32.091	— 1 26 33	— 20.474
	Melpomene	31.0	45.1	0.0	34 45.37	3 41.712		
	32986, Lalande	57.1	12.0	27.0	36 12.03	5 31.999	— 1 26.66	— 20.348
	Melpomene	- -	50.0	5.0	38 50.03	3 41.723		
	32986, Lalande	1.6	16.0	31.0	40 16.20	5 32.080	— 1 26.17	— 20.418
	Melpomene	30.7	44.9	0.0	41 45.20	3 41.662		
	32986, Lalande	57.1	11.4	26.5	43 11.67	5 31.990	— 1 26.47	— 20.389
	Melpomene	28.0	42.7	57.0	44 42.57	3 41.690		
	32986, Lalande	54.0	9.0	23.2	46 8.73	5 31.910	— 1 26.16	— 20.281
	Melpomene	25.0	39.0	54.0	47 39.33	3 41.855		
	32986, Lalande	51.2	5.2	20.0	49 5.47	5 32.112	— 1 26.14	— 20.318
	Melpomene	26.0	40.5	55.0	51 40.50	3 41.840		
	32986, Lalande	51.2	7.0	21.0	53 6.40	5 32.138	— 1 25.90	— 20.359
	Melpomene	57.5	12.0	27.0	55 12.17	3 41.901		
	32986, Lalande	23.0	38.0	52.7	56 37.90	3 31.990	— 1 25.73	— 20.150
	Melpomene	28.5	43.0	57.5	8 0 43.00	3 41.921		
	32986, Lalande	53.7	8.2	23.2	2 8.37	3 31.960	— 1 25.37	— 20.100
	Melpomene	23.0	39.5	52.0	3 38.17	3 41.921		
	32986, Lalande	48.0	3.1	18.0	5 3.03	5 31.910	— 1 24.86	+ 20.050
	Melpomene	38.0	53.0	8.0	8 53.00	3 42.062		
	32986, Lalande	4.0	18.4	33.0	10 18.47	5 31.872	— 1 25.47	+ 19.871
	Melpomene	11.3	26.0	41.0	12 26.10	3 42.069		
	32986, Lalande	36.2	51.0	6.0	13 51.07	5 31.842	— 1 24.97	+ 19.834
13	Melpomene	28.2	43.0	58.0	7 33 43.07	4 38.330		
	33178, Lalande	14.0	29.0	44.0	34 29.00	2 36.482	— 0 45 93	— 27.757
	Melpomene	4.0	19.0	34.0	35 19.00	4 38.390		
	33178, Lalande	49.5	4.0	19.0	36 4.17	2 36.539	— 0 45.17	— 27.769

RESULTS.

Corr. Chron. — 0 m. s. 10.46

	a (h. m. s.)	δ (° ′ ″)
6065, B. A. C.,	17 47 49.76	−15 46 48.66
1209, Madrass,	17 48 19.63	−15 39 23.44

Melpomene—6065, B. A. C.,

	h. m. s.	△a (m. s.)	△δ (′ ″)
M. T.	7 52 31.63	+ 2 43.00	— 7 20.25
Δt		+ .45	
Δϱ		.00	— .38
p		+ .08	+ 4.21

Melpomene—1209 Madrass,

	h. m. s.	△a (m. s.)	△δ (′ ″)
M. T.	7 52 31.63	+ 2 13.68	−14 48.62
Δt		+ .37	
Δϱ		— .01	— .78
p		+ .08	+ 4.21

Corr. Chron. — 0 m. s. 10.78

	a (h. m. s.)	δ (° ′ ″)
32986, Lalande,	17 53 39.61	−16 13 2.64

Melpomene—32986, Lalande,

	h. m. s.	△a (m. s.)	△δ (′ ″)
M. T.	7 50 41.92	— 1 25.85	— 5 10.71
Δt		— .23	
Δϱ		.00	— .27
p		+ .08	+ 4.18

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 13	Melpomene	31.0	46.0	1.0	7 36 46.00	4 38.560		
	33178, Lalande	17.0	31.7	46.5	37 31.73	2 36.459	— 0 45.72	— 28.010
	Melpomene	2.7	17.2	32.5	38 17.47	4 38.342		
	33178, Lalande	48.0	3.1	18.0	39 3.03	2 36.471	— 0 45.56	— 27.780
	Melpomene	41.0	56.0	10.9	39 55.97	4 38.352		
	33178, Lalande	26.0	41.0	56.0	40 41.00	2 36.405	— 0 45.03	— 27.856
	Melpomene	13.2	28.2	43.0	41 28.13	4 38.400		
	33178, Lalande	59.0	13.7	28.0	42 13.57	2 36.418	— 0 45.44	— 27.891
	Melpomene	45.0	59.2	14.0	42 59.40	4 38.452		
	33178, Lalande	30 0	45.0	59.5	43 44.83	2 36.382	— 0 45.43	— 27.979
	Melpomene	31.0	45.5	1.0	45 45.83	4 38.500		
	33178, Lalande	17.0	31.5	46.2	46 31.57	2 36.395	— 0 45.74	— 28.014
	Melpomene	1.2	16.0	31.0	47 16.07	4 38.478		
	33178, Lalande	46.0	1.0	16.0	48 1.07	2 36.470	— 0 45.00	— 27.917
	Melpomene	49.0	4.0	19.0	50 4.00	4 38.662		
	33178, Lalande	35.0	49.0	4.0	50 49.33	2 36.505	— 0 45.33	— 28.066
	Melpomene	39.7	54.5	9.0	51 54.40	4 38.695		
	33178, Lalande	25.0	39.0	54.0	52 39.33	2 36.457	— 0 44.93	— 28.153
	Melpomene	24.0	39.2	54.0	53 39.07	4 38.669		
	33178, Lalande	9.0	24.0	39.0	54 24.00	2 36.478	— 0 44.93	— 28.100
	Melpomene	17.2	32.0	47.0	56 32.07	4 38.778		
	33178, Lalande	2.0	17.0	31.0	57 16.67	2 36.542	— 0 44.60	— 28.145
	Melpomene	51.0	5.0	20.0	58 5.33	4 38.822		
	33178, Lalande	35.0	50.0	5.0	58 50.00	2 36.610	— 0 44.67	— 28.121
16	A. Z. 228, 1	46.2	1.0	16.1	7 20 1.10	2 37.565	+ 5 2.90	— 15.027
	A Z. 218, 37	55.5	11.0	26.0	23 10.83	4 43.615	+ 1 53.17	+ 16.932
	Melpomene	49.0	4.0	19.1	25 4.00	3 39.599		
	A. Z. 228, 1	59.2	14.0	29.2	29 14.13	2 37.580	+ 5 2.87	— 15.485
	A. Z. 218, 37	- -	- -	40.0	32 25.00	4 43.582	+ 1 52.00	+ 16.426
	Melpomene	- -	-	32.0	34 17.00	3 40.072		
	A. Z. 228, 1	47.1	2.0	17.0	38 2.03	2 37.468	+ 5 3.30	— 15.435
	A. Z. 218, 37	57.5	12.0	27.0	41 12.17	4 43.572	+ 1 53.16	+ 16.578
	Melpomene	51.0	5.0	20.0	43 5.33	3 39.910		
	A. Z. 228, 1	57.0	12.0	27.2	47 12.07	2 37.348	+ 5 4.43	— 15 364
	A. Z. 218, 37	8.0	23.0	38.0	50 23.00	4 43.431	+ 1 53.50	+ 16.628
	Melpomene	1.0	- -	- -	52 16.00	3 39.719		
	A. Z. 228, 1	53.5	8.0	23.0	56 8.17	2 37.250	+ 5 3.92	— 15.672
	A. Z. 218, 37	4.0	19.0	34.0	59 19.00	4 43.330	+ 1 53.09	+ 16.817
	Melpomene	- -	12.0	27.0	8 1 12.09	3 39.929		
	A. Z. 228, 1	33.0	47.5	2.0	7 47.50	2 37.329	+ 5 4.59	— 15.784
	A. Z. 218, 37	43.0	58.0	13.5	10 58.17	4 43.341	+ 1 53.92	+ 16.137
	Melpomene	- -	52.0	7.0	12 52.09	3 40.120		
	A. Z. 228, 1	28.0	52.0	7.1	14 52.37	2 37.249	+ 5 4.96	— 15.849
	A. Z. 218, 37	48.0	3.0	18.0	18 3.00	4 43.350	+ 1 54.33	+ 16.161
	Melpomene	43.0	57.0	12.0	19 57.33	3 40.105		
	A. Z. 228, 1	52.0	7.0	21.5	23 6.83	2 37.141	+ 5 5.57	— 15.913
	A. Z. 218, 37	2.0	17.5	32.5	26 17.50	4 43.195	+ 1 54.90	+ 16.050
	Melpomene	58.0	12.0	27.2	28 12.40	3 40.061		

RESULTS.

Corr. Chron. — 0 m. s. 11.67

	α	δ
	h. m. s.	° ′ ″
33178, Lalande,	17 58 40 30	—16 39 58.83

Melpomene—33178, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 44 55.89	— 0 45.25	+ 7 9.86
		Δt — .12	
		Δϱ — .04	— .83
		p + .21	+ 3.75

Corr. Chron. — 0 m. s. 13.39

	α	δ
	h. m. s.	° ′ ″
A. Z., 228, 1,	17 56 3.72	—17 1 54.48
A. Z., 218, 37,	17 59 14.72	—17 10 5.85

Melpomene—A. Z., 228, 1,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 6 23.56	+ 5 4.53	— 4 1.24
		Δt + .84	
		Δϱ — .01	— .26
		p + .12	+ 3.95

Melpomene—A. Z., 218, 37,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 6 23.56	+ 1 53 92	+ 4 10.10
		Δt + .31	
		Δϱ + .01	+ .26
		p + .12	+ 3.95

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h m. s.	revs.	m. s.	revs.
Sept. 16.	A. Z. 228, 1	24.0	39.0	54.0	8 31 39.03	2 36.995	+ 5 6.14	− 16.139
	A. Z. 218, 37	35.0	49.5	5.0	34 49.83	4 43.130	+ 1 55.34	+ 15.905
	Melpomene	30.5	45.0	0.0	36 45.17	3 40.141		
	A. Z. 228, 1	7.0	21.7	36.2	47 21.63	2 36.718	+ 5 6.64	− 16.295
	A. Z. 218, 37	17.5	32.5	47.0	50 32.33	4 42.692	+ 1 55.74	+ 15.588
	Melpomene	13.0	28.0	43.2	52 28.07	3 40.020		
17	(* 33) W.	53.0	..	23.0	7 25 8.00	4 40.409	+ 0 4.00	− 7.446
	Melpomene	57.0	..	27.0	25 12.00	4 47.855		
	(* 33) W.	15.0	29.2	44.0	28 29.40	4 40.420	+ 0 4.33	− 7.400
	Melpomene	19.0	34.0	48.2	28 33.73	4 47.820		
	(* 33) W.	41.0	55.4	10.8	30 55.73	4 40.453	+ 0 3.60	− 7.596
	Melpomene	45.0	59.0	14.0	30 59.33	4 48.049		
	(* 33) W.	30.0	..	59.5	31 44.75	4 40.422	+ 0 4.25	− 7.563
	Melpomene	34.0	49.0	4.0	31 49.00	4 47.985		
	(* 33) W.	33.0	..	3.0	32 48.00	4 40.468	+ 0 4.20	− 7.581
	Melpomene	37.4	..	7.0	32 52.20	4 48.049		
	(* 33) W.	29.5	..	59.7	33 44.60	4 40.349	+ 0 4.40	− 7.623
	Melpomene	34.0	..	4.0	33 49.00	4 47.972		
	(* 33) W.	53.2	..	22.7	35 7.95	4 40.180	+ 0 4.30	− 7.620
	Melpomene	57.5	..	27.0	35 12.25	4 48.800		
	(* 33) W.	28.0	..	58.0	37 43.00	4 40.108	+ 0 4.25	− 7.937
	Melpomene	32.5	..	2.0	37 47.25	4 48.045		
	(* 33) W.	53.0	..	23.0	40 8.00	4 40.405	+ 0 4.25	− 7.733
	Melpomene	57.5	..	27.0	40 12.25	4 48.138		
	(* 33) W.	2.0	..	32.0	41 17.00	4 40.378	+ 0 5.10	− 7.581
	Melpomene	7.0	..	37.2	41 22.10	4 47.959		
	(* 33) W.	19.0	..	49.0	43 34.00	4 40.455	+ 0 5.00	− 7.685
	Melpomene	24.0	..	54.0	43 39.00	4 48.140		
	(* 33) W.	25.0	..	54.5	44 39.75	4 40.452	+ 0 4.35	− 7.738
	Melpomene	29.0	..	59.2	44 44.10	4 48.190		
	(* 33) W.	22.5	..	52.5	46 37.50	4 40.409	+ 0 5.20	− 7.651
	Melpomene	28.0	..	57.4	46 42.70	4 48.060		
	(* 33) W.	24.0	..	54.0	47 39.00	4 40.351	+ 0 5.00	− 7.840
	Melpomene	29.0	..	59.0	47 44.00	4 48.191		
18	(* 33) W.	4.0	19.2	3.4	7 3 19.07	4 37.442	+ 1 11.60	− 30.565
	Melpomene	16.0	31.0	45.0	4 30.67	5 50.862		
	(* 33) W.	44.1	58.5	13.7	6 58.77	4 37.550	+ 1 11.23	− 30.564
	Melpomene	55.0	10.0	25.0	8 10.00	5 50.969		
	(* 33) W.	7.0	21.7	37.0	9 21.90	4 37.530	+ 1 11.50	− 30.545
	Melpomene	18.6	33.0	48.6	10 33.40	5 50.930		
	(* 33) W.	9.0	24.3	39.0	11 24.10	4 37.410	+ 1 11.90	− 30.746
	Melpomene	21 0	36.0	51.0	12 36.00	5 51.011		
	(* 33) W.	41.0	56.0	11.2	14 56.07	4 37.448	+ 1 12.00	− 30.696
	Melpomene	53.0	8.0	23.2	16 8.07	5 50.991		
	(* 33) W.	27.0	42.5	57.2	17 42.23	3 50.308	+ 1 11.77	− 30.818
	Melpomene	39.0	54.0	9.0	18 54.00	5 51.065		

RESULTS.

m. s.
Corr. Chron. − 0 13.42

	a	δ
	h. m. s.	° ′ ″
(* 33) W.,	18 2 10.81	−17 13 33.54

Melpomene—(* 33) W.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 36 57.93	+ 0 4.44	− 1 57.45
	Δt	+ .01	
	Δρ	.00	− .12
	p	+ .09	+ 4.00

m. s.
Corr. Chron. − 0 13.65

	a	δ
	h. m. s.	° ′ ″
(* 33) W.,	18 2 10.80	−17 13 33.54

Melpomene—(* 33) W.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 16 42.40	+ 1 11.96	− 7 52.03
	Δt	+ .19	
	Δρ	− .01	− .45
	p	+ .08	+ 4.02

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 18	(* 33) W.	45.2	0.5	15.5	7 30 0.40	3 50.401	+ 1 12.77	— 30.851
	Melpomene	58.5	13.0	28.0	31 13.17	5 51.191		
	(* 33) W.	55.2	10.2	25.3	32 10.23	3 50.302	+ 1 12.87	— 30.910
	Melpomene	8.0	23.3	38.0	33 23.10	5 51.151		
19	(* 33) W.	35.0	49.2	5.0	7 12 49.73	1 38.680	+ 2 22.27	— 53.667
	Melpomene	57.0	12.0	27.0	15 12.00	5 32.222		
	(* 33) W.	27.2	42.0	57.3	17 42.17	1 38.832	+ 2 22.73	— 53.775
	Melpomene	50.2	5.0	19.5	20 4.90	5 32.482		
	(* 33) W.	43.0	57.0	12.5	22 57.50	1 38.828	+ 2 22.60	— 53.797
	Melpomene	5.0	20.0	. .	25 20.10	5 32.500		
	(* 33) W.	13.2	28.1	43.0	29 28.10	1 38.910	+ 2 22.90	— 53.825
	Melpomene	36.0	51.0	6.0	31 51.00	5 32.610		
	(* 33) W.	9.9	25.2	40.7	34 25.26	1 38.870	+ 2 23.74	— 53.905
	Melpomene	34.0	49.0	4.0	36 49.00	5 32.650		
	(* 33) W.	9.5	24.0	39.0	40 24.16	1 38.722	+ 2 23.84	— 54.163
	Melpomene	33.0	48.0	3.0	42 48.00	5 32.760		
22	(* 34) W.	47.1	2.1	17.0	7 5 2.07	1 37.520	+ 2 9.93	— 65.634
	Melpomene	57.0	12.0	27.0	7 12.00	5 43.029		
	(* 34) W.	14.5	29.1	44.0	8 29.20	1 37.521	+ 2 10.47	— 65.596
	Melpomene	25.0	39.0	55.0	10 39.67	5 42.992		
	(* 34) W.	38.1	53.0	8.2	11 53.10	1 37.489	+ 2 11.23	— 65.796
	Melpomene	49.0	5.0	19.0	14 4.33	5 43.160		
	(* 34) W.	43.1	58.0	13.1	14 58.07	1 37.409	+ 2 10.93	— 65.948
	Melpomene	54.0	9.0	24.0	17 9.00	5 43.232		
	(* 34) W.	14.0	29.0	43.6	19 28.87	1 37.440	+ 2 10.50	— 65.916
	Melpomene	24.6	39.5	54.0	21 39.37	5 43.231		
	(* 34) W.	41.0	56.0	11.0	23 55.67	1 37.412	+ 2 11.33	— 66.035
	Melpomene	52.0	7.0	22.0	26 7.00	5 43.322		
	(* 34) W.	19.0	33.5	48.0	28 33.50	1 37.370	+ 2 11.20	— 66.036
	Melpomene	30.0	44.6	59.5	30 44.70	5 43.281		
	(* 34) W.	9.1	24.2	39.0	36 24.10	1 37.355	+ 2 11.10	— 66.055
	Melpomene	20.5	35.1	50.0	38 35.20	5 43.285		
	(* 34) W.	23.7	39.0	53.6	40 38.77	1 37.361	+ 2 11.66	— 66.072
	Melpomene	35.6	50.7	5.0	42 50.43	5 43.308		
	(* 34) W.	58.5	13.0	28.5	45 13.33	1 37.232	+ 2 11.90	— 66.384
	Melpomene	10.5	25.0	40.2	47 25.23	5 43.491		
26	33694, Lalande	38.9	53.5	9.0	6 33 53.80	1 35.665	+ 2 10.53	— 65.859
	Melpomene	49.5	4.5	19.0	36 4.33	5 29.931		
	33694, Lalande	54.0	8.7	24.1	37 8.70	1 35.710	+ 2 11.30	— 65.894
	Melpomene	5.0	20.0	35.0	39 20.00	5 29.941		
	33694, Lalande	14.1	29.2	44.1	41 29.13	1 35.629	+ 2 11.87	— 65.772
	Melpomene	26.0	41.0	56.0	43 41.00	5 29.982		
	33694, Lalande	44.2	59.1	14.1	44 59.13	1 35.780	+ 2 11.27	— 65.754
	Melpomene	55.7	10.5	25.0	47 10.40	5 30.151		

RESULTS.

Corr. Chron. — 0 m. 14.50 s.

	α	δ
	h. m. s.	° ′ ″
(* 33) W.,	18 2 10.79	−17 13 33.55

Melpomene—(* 33) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 28 26.33	+ 2 23.01	−13 47.74
	Δt +	.39	
	Δϱ −	.02	− .80
	p +	.09	+ 3.96

Corr. Chron. — 0 m. 17.32 s.

	α	δ
	h. m. s.	° ′ ″
(* 34) W.,	18 6 2.64	−17 23 57.35

Melpomene—(* 34) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 25 21.37	+ 2 11.02	−16 53.58
	Δt +	.36	
	Δϱ −	.02	− 1.02
	p +	.09	+ 3.90

Corr. Chron. — 0 m. 20.87 s.

	α	δ
	h. m. s.	° ′ ″
33694, Lalande,	18 11 13.25	−17 45 20.76

Melpomene—33694, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 52 7.53	+ 2 11.82	−16 48.91
	Δt +	.36	
	Δϱ −	.02	− .99
	p +	.07	+ 3.88

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 26	33694, Lalande	49.0	3.5	18.8	6 49 3.77	1 35.919	+ 2 11.43	— 65.749
	Melpomene	0.5	15.1	30.0	51 15.20	5 30.295		
	33694, Lalande	49.6	4.2	19.2	53 4.33	1 35.858	+ 2 12.07	— 65.488
	Melpomene	1.4	16.7	31.1	55 16.40	5 30.495		
	33694, Lalande	48.7	3.0	18.5	56 3.40	1 35.888	+ 2 12.47	— 65.574
	Melpomene	1.0	16.0	30.6	58 15.87	5 30.439		
	33694, Lalande	48.1	3.0	18.0	59 3.03	1 35.985	+ 2 11.99	— 65.515
	Melpomene	- -	15.0	30.0	7 1 15.02	5 30.595		
	33694, Lalande	11.0	26.0	41.0	2 26.00	1 35.921	+ 2 12.93	— 65.456
	Melpomene	24.1	39.2	53.5	4 38.93	5 30.590		
	33694, Lalande	19.0	34.0	48.7	5 33.90	1 35.772	+ 2 12.93	— 65.365
	Melpomene	32.0	47.0	1.5	7 46.83	5 30.532		
27	33694, Lalande	50.0	4.6	20.0	7 0 4.83	1 32.372	+ 3 34.17	— 74.753
	Melpomene	24.0	39.0	54.0	3 39.00	5 47.000		
	33694, Lalande	48.0	3.0	17.5	6 2.83	1 32.312	+ 3 34.17	— 75.065
	Melpomene	22.0	37.0	52.0	9 37.00	5 47.252		
	33966, Lalande	22.0	37.0	52.0	12 37.00	5 56.229	— 3 0.00	+ 8.977
	33694, Lalande	8.1	23.0	37.0	17 22.70	1 32.330	+ 3 34.87	— 75.126
	Melpomene	42.7	58.0	12.0	20 57.57	5 47.331		
	33966, Lalande	41.6	57.5	12.0	23 56.87	5 56.209	— 2 59.30	+ 8.878
	33694, Lalande	42.0	57.0	12.0	26 57.00	1 32.330	+ 3 35.85	— 75.230
	Melpomene	- -	33.0	48.0	30 32.85	5 47.435		
	33966, Lalande	16.0	31.0	46.0	33 31.00	5 56.182	— 2 58.15	+ 8.747
	33694, Lalande	49.1	4.0	19.2	39 4.10	1 32.330	+ 3 35.93	— 75.505
	Melpomene	25.2	40.5	55.0	42 40.03	5 47.710		
	33966, Lalande	23.0	38.0	- -	45 37.85	5 56.149	— 2 57.82	+ 8.439
28	Melpomene	14.0	29.0	44.0	6 50 29.00	3 35.972		
	33966, Lalande	52.0	7.0	21.9	52 6.97	2 38.430	— 1 37.97	— 10.535
	Melpomene	54.0	9.0	- -	53 9.00	3 35.846		
	33966, Lalande	32.0	47.1	2.1	54 47.07	2 38.370	— 1 38.07	— 10.469
	Melpomene	25.5	41.0	55.0	55 40.50	3 35.749		
	33966, Lalande	-	18.0	32.7	57 18.00	2 38.310	— 1 37.50	— 10.432
	Melpomene	19.2	34.2	50.0	7 0 34.47	3 36.075		
	33966, Lalande	57.0	12.0	27.0	2 12.00	2 38.305	— 1 37.53	— 10.763
	Melpomene	1.0	16.0	30.9	3 15.97	3 35.846		
	33966, Lalande	38.1	53.0	8.1	4 53.06	2 38.258	— 1 37.09	— 10.581
	Melpomene	31.1	46.5	1.3	5 46.30	3 35.960		
	33966, Lalande	8.5	23.6	39.0	7 23 70	2 38.180	— 1 37.40	— 10.773
	Melpomene	10.0	25.0	40.0	12 25.00	3 36.019		
	33966, Lalande	47.0	2.1	16.9	14 2.00	2 38.285	— 1 37.00	— 10.727
	Melpomene	54.1	9.5	24.2	15 9.27	3 35.960		
	33966, Lalande	31.0	46.0	1.0	16 46.00	2 38.294	— 1 36.73	— 10.659
	Melpomene	41.0	56 0	- -	20 56.05	3 35.989		
	33966, Lalande	17.6	32.0	47.5	22 32.37	2 38.165	— 1 36.32	— 10.817
	Melpomene	29.2	45.2	59.5	24 44.63	3 35.998		
	33966, Lalande	6.0	20.7	36.0	26 20.90	2 38.119	— 1 36.27	— 10.872

RESULTS.

m. s.
Corr. Chron. — 0 20.12

	α	δ
	h. m. s.	° ′ ″
33694, Lalande,	18 11 13.22	—17 45 20.77
33966, Lalande,	18 17 48.40	—18 9 53.41

Melpomene—33694, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 21 9.17	+ 3 35.00	—19 14.81
	Δt	+ .59	
	Δρ	— .03	— 1.22
	p	+ .10	+ 3.81

Melpomene,—33966, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 25 36.74	— 2 58.82	+ 2 14.64
	Δt	— .49	
	Δρ	.00	+ .14
	p	+ .10	+ 3.81

m. s.
Corr. Chron. — 0 19.08

	α	δ
	h. m. s.	° ′ ″
33966, Lalande,	18 17 48.38	—18 9 53.42

Melpomene—33966, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 9 36.64	— 1 36.95	— 2 44.54
	Δt	— .26	
	Δρ	.00	— .17
	p	+ .09	+ 3.82

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 28	Melpomene	2.0	17.5	32.0	7 27 17.16	3 36.001		
	33966, Lalande	38.1	53.2	8.1	28 53.13	2 38.025	— 1 35.97	— 10.969
	Melpomene	27.1	41.2	56.2	29 41.50	3 35.821		
	33966, Lalande	2.0	17.0	32.0	31 17.00	2 37.949	— 1 35.50	— 10.865
29	Melpomene	47.0	. .	17.0	6 47 2.00	4 43.125		
	33966, Lalande	1.0	.	31.0	47 16.00	2 39.418	— 0 14.00	— 29.616
	Melpomene	11.0	. .	41.0	49 26.00	4 43.041		
	33966, Lalande	25.0	. .	55.0	49 40.00	2 39.335	— 0 14.00	— 29.615
	Melpomene	31.9	. .	1.9	50 46.90	4 43.036		
	33966, Lalande	46.2	. .	16.2	51 1.20	2 39.305	— 0 14.30	— 29.640
	Melpomene	44.0	. .	14.4	51 59.20	4 43.101		
	33966, Lalande	58.0	. .	28.2	52 13.10	2 39.260	— 0 13.90	— 29.750
	Melpomene	1.0	. .	30.0	54 15.50	4 42.972		
	33966, Lalande	14.5	.	44.0	54 29.25	2 39.225	— 0 13.75	— 29.656
	Melpomene	46.2	. .	16.0	56 1.10	4 43.190		
	33966, Lalande	59.5	. .	29.5	56 14.50	2 39.231	— 0 13.40	— 29.768
	Melpomene	50.5	5.0	20.0	58 5.17	4 43.132		
	33966, Lalande	. .	18.0	33.4	58 18.00	2 39.159	— 0 12.83	— 29.882
	Melpomene	5.2	. .	36.0	59 20.60	4 43.149		
	33966, Lalande	19.0	. .	49.1	7 0 34.05	2 39.055	— 0 13.45	— 30.003
	Melpomene	46.0	. .	16.0	2 1.00	4 43.135		
	33966, Lalande	59.0	. .	29.0	2 14.00	2 39.228	— 0 13.00	— 29.816
	Melpomene	16.7	. .	46.1	4 31.40	4 43.050		
	33966, Lalande	29.2	44.0	59.0	4 44.07	2 39.162	— 0 12.67	— 29.797
	Melpomene	49.9	. .	20.0	6 4.95	4 43.219		
	33966, Lalande	3.6	. .	33.2	6 18.40	2 39.101	— 0 13.45	— 30.027
	Melpomene	24.2	. .	.	8 39.07	4 43.037		
	33966, Lalande	37.5	. .	7.0	8 52.25	2 39.109	— 0 13.18	— 29.837
	Melpomene	17.0	. .	46.5	10 31.75	4 43.160		
	33966, Lalande	29.0	44.0	59.0	10 44.00	2 39.050	— 0 12.25	— 30.019
	Melpomene	39.0	. .	9.0	11 54.00	4 43.100		
	33966, Lalande	51.6	. .	22.0	12 6.80	2 39.000	— 0 12.80	— 30.009
	Melpomene	33.9	. .	4.2	16 49.05	4 43.092		
	33966, Lalande	. .	. .	16.3	17 1.12	2 38.970	— 0 12.07	— 30.031
	Melpomene	49.1	. .	19.5	19 4.30	4 43.071		
	33966, Lalande	. .	16.0	30.9	19 16.00	2 38.865	— 0 11.70	— 30.115
	Melpomene	33.2	. .	2.2	20 47.70	4 43.085		
	33966, Lalande	44.9	. .	14.6	20 59.75	2 38.829	— 0 12.05	— 30.165
	Melpomene	15.2	. .	45.0	23 30.10	4 43.141		
	33966, Lalande	27.0	42.0	57.1	23 42.03	2 38.801	— 0 11.93	— 30.249
	Melpomene	48.1	3.0	18.2	25 3.10	4 42.979		
	33966, Lalande	. .	15.0	30.2	25 15.00	2 38.700	— 0 11.90	— 30.188
	Melpomene	34.0	. .	4.7	26 49.35	4 42.991		
	33966, Lalande	45.9	1.0	16.0	27 0.97	2 38.652	— 0 11.62	— 30.248

RESULTS.

		Corr. Chron.	m. s. — 0 19.08
		α	δ
33966, Lalande,		h. m. s. 18 17 48.36	° ′ ″ —18 9 53.44

Melpomene—33966, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 5 49.03	— 0 12.91	— 7 39.88
		Δt — .03	
		Δϱ — .01	— .48
		p + .09	+ 3.80

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 30	33966, Lalande	10.9	26.1	41.2	6 32 26.07	1 36.712	+ 1 10.33	— 48.359
	Melpomene	21.5	36.5	51.2	33 36.40	4 42.091		
	33966, Lalande	14.1	29.1	44.0	36 29.07	1 36.830	+ 1 10.60	— 48.249
	Melpomene	25.0	39.0	55.0	37 39.67	4 42.099		
	33966, Lalande	21.6	36.5	51.5	38 36.53	1 36.895	+ 1 11.43	— 48.184
	Melpomene	- -	48.0	2.0	39 47.96	4 42.099		
	33966, Lalande	46.0	1.2	16.0	42 1.07	1 36.939	+ 1 11.10	— 48.349
	Melpomene	57.0	12.5	27.0	43 12.17	4 42.308		
	33966, Lalande	47.1	2.0	17.2	44 2.10	1 36.952	+ 1 11.23	— 48.369
	Melpomene	58.2	13.2	28.6	45 13.33	4 42.341		
	33966, Lalande	44.7	59.8	14.4	45 59.63	1 36.960	+ 1 11.54	— 48.372
	Melpomene	56.0	11.5	26.0	47 11.17	4 42.352		
	33966, Lalande	48.5	3.5	18.7	48 3.57	1 36.910	+ 1 11.26	— 48.457
	Melpomene	59.5	15.0	30.0	49 14.83	4 42.387		
	33966, Lalande	47.3	2.0	17.0	50 2.10	1 36.900	+ 1 11.90	— 48.455
	Melpomene	59.0	14.0	- -	51 14.00	4 42.375		
	33966, Lalande	15.0	30.0	45.0	52 30.00	1 37.180	+ 1 12.00	— 48.610
	Melpomene	27.0	42.0	57.0	53 42.00	4 42.810		
	33966, Lalande	13.2	28.0	43.0	55 28.07	1 37.162	+ 1 11.86	— 48.529
	Melpomene	25.2	39.6	55.0	56 39.93	4 42.711		
	33966, Lalande	12.0	27.0	42.0	57 27.00	1 37.060	+ 1 12.23	— 48.682
	Melpomene	24.1	39.5	54.1	58 39.23	4 42.762		
	33966, Lalande	13.9	29.0	44.1	59 29.00	1 37.058	+ 1 12.00	— 48.572
	Melpomene	26.0	41.0	56.0	7 0 41.00	4 42.650		
	33966, Lalande	13.7	28.2	43.6	1 28.50	1 37.020	+ 1 12.50	— 48.775
	Melpomene	26.0	41.0	56.0	2 41.00	4 42.815		
	33966, Lalande	11.0	26.0	41.0	4 26.00	1 37.000	+ 1 12.47	— 48.781
	Melpomene	- -	38.4	54.0	5 38.47	4 42.801		
	33966, Lalande	19.0	34.0	49.0	6 34.00	1 37.030	+ 1 12.40	— 48.665
	Melpomene	31.5	46.2	1.5	7 46.40	4 42.715		
	33966, Lalande	20.2	35.1	50.0	8 35.10	1 37.042	+ 1 12.90	— 48.743
	Melpomene	33.0	48.0	3.0	9 48.00	4 42.805		
	33966, Lalande	9.0	24.0	39.0	11 24.00	1 36.909	+ 1 13.00	— 48.943
	Melpomene	22.0	37.0	52.0	12 37.00	4 42.872		
	33966, Lalande	13.7	28.2	43.2	13 28.37	1 36.989	+ 1 13.30	— 48.778
	Melpomene	27.0	41.7	- -	14 41.67	4 42.787		
	33966, Lalande	28.0	43.0	58.1	15 43.03	1 36.942	+ 1 13.13	— 48.879
	Melpomene	41.0	56.0	11.5	16 56.16	4 42.841		
	33966, Lalande	31.7	47.1	1.7	17 46.83	1 36.949	+ 1 13.10	— 48.798
	Melpomene	45.1	59.7	15.0	18 59.93	4 42.767		
Oct. 1	Melpomene	59.0	14.0	29.1	6 39 14.03	3 43.268		
	6293, B. A. C.	17.0	32.0	47.0	41 32.00	1 51.710	— 2 17.97	— 21.622
	6294, B. A. C.	19.2	34.0	49.5	41 34.23	4 41.268	— 2 20.20	+ 10.916
	Melpomene	12.0	27.0	41.7	44 26.90	3 43.270		
	6293, B. A. C.	29.0	44.0	59.0	46 44.00	2 34.460	— 2 17.10	— 21.803
	6294, B. A. C.	32.5	47.0	2.0	46 47.16	4 41.3[illegible]	— 2 20.26	+ 10.996

RESULTS.

Corr. Chron. — 0 m. 19.08 s.

	α	δ
	h. m. s.	° ′ ″
33966, Lalande,	18 17 48.34	—18 9 53.45

Melpomene—33966, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 56 58.94	+ 1 12.01	—12 26.61
	Δt	+ .19	
	Δρ	— .02	— .77
	p	+ .08	+ 3.79

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 1	Melpomene	17.5	32.5	47.0	6 48 32.33	3 43.252		
	6293, B. A. C.	35.0	. .	5.0	50 50.00	2 34.562	— 2 17.67	— 21.683
	6294, B. A. C.	38.0	52.0	7.5	50 52.50	4 41.261	— 2 20.17	+ 10.925
	Melpomene	9.5	24.0	39.5	55 24.33	3 43.061		
	6293, B. A. C.	26.0	41.0	56.0	57 41.00	2 34.169	— 2 16.67	— 21.885
	6294, B. A. C.	29.2	44.0	59.0	57 44.07	4 40.910	— 2 19.74	+ 10.765
	Melpomene	6.0	21.0	36.0	7 0 21.00	3 43.079		
	6293, B. A. C.	23.0	37.5	53.0	2 37.83	2 34.042	— 2 16.83	— 22.030
	6294, B. A. C.	25.2	39.7	55.0	2 39.97	4 40.979	— 2 18.97	+ 10.816
	Melpomene	23.0	38.0	53.5	4 38.17	3 42.948		
	6293, B. A. C.	39.0	54.0	9.0	6 54.00	2 34.002	— 2 15.83	— 21.939
	6294, B. A. C.	42.5	57.2	12.0	6 57.23	4 40.980	— 2 19.06	+ 10.948
	Melpomene	41.2	55.7	. .	8 55.76	3 42.755		
	6293, B. A. C.	57.0	11.5	. .	10 11.56	2 33.728	— 2 15.80	— 22.020
	6294, B. A. C.	59.2	14.0	29.0	11 14.07	4 40.468	— 2 18.31	+ 10.629
	Melpomene	6.4	21.7	37.0	15 21.70	3 42.418		
	6293, B. A. C.	22.0	37.0	52.0	17 37.00	2 33.395	— 2 15.30	— 22.016
	6294, B. A. C.	25.0	40.0	55.0	17 40.00	4 40.072	— 2 18.30	+ 10.568
	Melpomene	26.0	41.0	56.0	20 41.00	3 42.265		
	6293, B. A. C.	41.2	56 0	11.0	22 56.07	2 33.115	— 2 15.07	— 22.143
	6294, B. A. C.	44.0	59.0	14.2	22 59.07	4 39.940	— 2 18.07	+ 10.591
	Melpomene	28.1	43.0	58.1	24 43.07	3 42.242		
	6293, B. A. C.	43.0	57.0	13.0	26 57.67	2 33.068	— 2 14.60	— 22.167
	6294, B. A. C.	45.2	0.2	13.6	26 59.67	4 39.812	— 2 16.60	+ 10.486
2	Melpomene	20.2	35.0	50.0	6 33 35.06	5 35.238		
	6293, B. A. C.	10.0	25.5	40.0	34 25.16	3 25.712	— 0 50.10	— 39.587
	6294, B. A. C.	13.0	28.0	43.0	34 28.00	5 28.200	— 0 52.94	— 7.038
	Melpomene	28.2	43.0	58.1	36 43.10	5 35.142		
	6293, B. A. C.	17.9	32.0	. .	37 31.93	3 25.708	— 0 48.83	— 39.495
	6294, B. A. C.	20.0	34.0	. .	37 33.93	5 28.200	— 0 50.83	— 6.942
	Melpomene	15.2	30.2	45.0	39 30.13	5 35.189		
	6293, B. A. C.	5.0	19.7	35.0	40 19.90	3 25.580	— 0 49.77	— 39.670
	6294, B. A. C.	7.9	23.0	38.0	40 22.97	5 28.230	— 0 52.84	— 6.959
	Melpomene	34.0	49.0	4.0	41 49.00	5 35.114		
	6293, B. A. C.	23.6	38.5	53.0	42 38.37	3 25.608	— 0 49.37	— 39.567
	6294, B. A. C.	26.0	39.0	56.2	42 40.40	5 28.155	— 0 51.40	— 6.959
	Melpomene	51.0	6.0	21.0	44 6.00	5 35.055		
	6293, B. A. C.	41.0	56.0	10.5	44 55.83	3 25.432	— 0 49.83	— 39.684
	6294, B. A. C.	43.5	58.7	13.0	44 58.40	5 27.900	— 0 52.40	— 7.155
	Melpomene	18.0	33.0	48.0	46 33.00	5 35.029		
	6293, B. A. C.	6.7	23.0	38.0	47 22.57	3 25.290	— 0 49.57	— 39.800
	6294, B. A. C.	9.0	25.6	40.2	47 24.93	5 28.019	— 0 51.93	— 7.010
	Melpomene	48.1	2.5	18.0	50 2.87	5 34.978		
	6293, B. A. C.	37.1	51.6	6.3	50 51.67	3 25.190	— 0 48.80	— 39.849
	6294, B. A. C.	39.2	54.0	9.0	50 54.07	5 27.761	— 0 51.20	— 7.217
	Melpomene	18.0	33.0	48.1	52 33.03	5 34.842		
	6293, B. A. C.	0.7	22.0	37.0	53 22.00	3 25.050	— 0 48.97	— 39.853
	6294, B. A. C.	9.5	24.5	39.5	53 24.50	5 27.630	— 0 51.47	— 7.212
	Melpomene	22.0	37.0	52.5	55 37.07	5 34.795		
	6293, B. A. C.	11.0	26.2	41.0	56 26.07	3 25.045	— 0 49.00	— 39.811
	6294, B. A. C.	14.2	27.0	44.0	56 28.40	5 27.650	— 0 51.33	— 7.145

RESULTS.

Oct. 1

m. s.
Corr. Chron. — 0 20.50

	a	δ
	h. m. s.	° ′ ″
6293, B. A. C.,	18 22 45.37	—18 21 31.89
6294, B. A. C.,	18 22 47.14	—18 29 55.02

Melpomene—6293, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 1 53.34	— 2 16.28	— 5 37.07
	Δt —	.37	
	Δρ —	.01	— .36
	p +	.09	+ 3.77

Melpomene—6294, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 1 53.34	— 2 18.97	+ 2 45.44
	Δt —	.38	
	Δρ	.00	+ .18
	p +	.09	+ 3.77

2

m. s.
Corr. Chron. — 0 21.00

	a	δ
	h. m. s.	° ′ ″
6293, B. A. C.,	18 22 45.36	—18 21 31.90
6294, B. A. C.,	18 22 47.13	—18 29 55.02

Melpomene—6293, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 45 28.62	— 0 49.26	—10 10.40
	Δt —	.14	
	Δρ —	.01	— .62
	p +	.08	+ 3.78

Melpomene—6294, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 45 28.62	— 0 51.74	— 1 48.91
	Δt —	.14	
	Δρ	.00	— .11
	p +	.08	+ 3.78

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 2	Melpomene	31.7	47.0	2.0	6 57 46.90	5 34.758		
	6293, B. A. C.	20.5	35.2	50.0	58 35.23	3 24.988	— 0 48.33	— 39.831
	6294, B. A. C.	23.0	38.0	53.0	58 38.00	5 27.538	— 0 51.10	— 7.220
5	Melpomene	19.0	34.0	49.0	6 31 34.00	2 34.830		
	34401, Lalande	44.0	59.0	15.0	32 59.33	4 44.643	— 1 25.33	+ 35.722
	Melpomene	30.2	45.2	1.0	34 45.47	2 34.760		
	34401, Lalande	56.0	11.2	28.0	36 11.73	4 44.590	— 1 26.26	+ 35.739
	Melpomene	5.0	19.5	35.0	38 19.83	2 34.650		
	34401, Lalande	30.2	45.1	0.0	39 45.10	4 44.580	— 1 25.27	+ 35.839
	Melpomene	49.1	4.0	19.0	41 4.03	2 34.781		
	34401, Lalande	14.3	29.5	44.0	42 29.26	4 44.652	— 1 25.23	+ 35.780
	Melpomene	30.0	45.0	0.0	47 45.00	2 34.878		
	34354, Lalande	- -	14.5	29.5	48 14.58	1 31.491	— 0 29.58	— 20.458
	34401, Lalande	55.0	9.5	25.0	49 9.83	4 44.452	— 1 24.83	+ 35.483
	Melpomene	24.2	39.0	54.5	52 39.23	2 35.072		
	34354, Lalande	- -	9.0	24.0	53 9.08	1 31.538	— 0 29.85	— 20.605
	34401, Lalande	49.0	4.0	- -	54 4.08	4 44.752	— 1 24.85	+ 35.589
	Melpomene	11.0	25.0	40.0	55 25.33	2 34.943		
	34354, Lalande	- -	54.0	9.0	55 54.08	1 31.410	— 0 28.75	— 20.604
	34401, Lalande	34.0	49.0	4.4	56 49.13	4 44.562	— 1 23.80	+ 35.528
	Melpomene	41.0	56.0	10.7	59 55.90	2 35.015		
	34354, Lalande	- -	24.6	39.5	7 0 24.68	1 41.462	— 0 28.78	— 20.624
	34401, Lalande	5.1	19.4	35.2	1 19.90	4 44.612	— 1 24.00	+ 35.506
	Melpomene	8.1	23.0	37.5	2 22.87	2 35.041		
	34354, Lalande	- -	51.0	7.0	2 51.08	1 41.391	— 0 28.21	— 20.721
	34401, Lalande	31.0	46.2	1.0	3 46.07	4 44.432	— 1 23.20	+ 35.300
	Melpomene	39.1	53.5	8.3	4 53.63	2 35.085		
	34354, Lalande	- -	22.0	37.2	5 22.15	1 41.328	— 0 28.52	— 20.828
	34401, Lalande	2.6	17.2	32.7	6 17.50	4 44.541	— 1 23.87	+ 35.365
	Melpomene	46.1	0.2	15.0	8 0.43	2 34.971		
	34354, Lalande	- -	29.0	44.0	8 29.15	1 41.270	— 0 28.72	— 20.772
	34401, Lalande	9.2	24.0	39.0	9 24.06	4 44.422	— 1 23.63	+ 35.360
	Melpomene	13.1	28.1	43.0	10 28.07	2 35.026		
	34354, Lalande	-	55.5	11.6	10 55.65	1 41.249	— 0 27.58	— 20.848
	34401, Lalande	36.0	51.4	6.0	11 51.13	4 44.370	— 1 23.06	+ 35.253
	Melpomene	25.7	41.0	56.0	13 40.90	2 35.143		
	34354, Lalande	-	9.0	24.0	14 9.15	1 41.365	— 0 28.25	— 20.849
	34401, Lalande	49.0	4.0	19.0	15 4.00	4 44.498	— 1 23.10	+ 35.264
	Melpomene	47.1	1.0	17.0	16 1.70	2 35.162		
	34354, Lalande	15.0	29.0	45.0	16 29.67	1 41.310	— 0 27.97	— 20.923
	34401, Lalande	9.0	24.0	39.0	17 24.00	4 44.471	— 1 22.30	+ 35.218
8	34401, Lalande	16.0	31.0	46.0	6 24 31.00	2 38.500	+ 3 16.00	— 12.163
	Melpomene	32.0	47.0	- -	27 47.00	3 37.670		
	34401, Lalande	24.0	39.0	54.2	30 39.07	2 38.501	+ 3 16.93	— 12.197
	(* 35) W.	34.0	49.0	4.0	32 49.00	2 39.329	+ 1 7.00	— 11.369
	Melpomene	41.0	56.0	11.0	33 56.00	3 37.705		

RESULTS.

m. s.
Corr. Chron. — 0 22.23

	a	δ
	h. m. s.	° ′ ″
34401, Lalande,	18 27 52.30	—18 54 5.57
34354, Lalande,	18 26 57.12	—18 39 42.36

Melpomene—34401, Lalande,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 55 7.51	— 1 24.20	+ 9 5.56
	Δt	— .22	
	Δϱ	+ .01	+ .60
	p	+ .09	+ 3.71

Melpomene,—34354, Lalande,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 2 45.08	— 0 28.62	— 5 18.50
	Δt	— .07	
	Δϱ	— .01	— .35
	p	+ .10	+ 3.70

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 8	34401, Lalande	9.0	24.0	39.0	6 36 24.00	2 38.372	+ 3 16.33	— 12.326
	(* 35) W.	18.0	33.0	47.9	38 32.97	2 39.252	+ 1 7.36	— 11.446
	Melpomene	25.0	40.0	56.0	39 40.33	3 37.705		
	34401, Lalande	24.0	39.0	54.0	40 39.00	2 38.348	+ 3 17.00	— 12.273
	(* 35) W.	33.0	49.0	3.6	42 48.53	2 39.219	+ 1 7.47	— 11.402
	Melpomene	41.0	56.0	11.0	43 56.00	3 37.628		
	34401, Lalande	38.7	54.0	9.0	45 53.90	2 38.352	+ 3 17.27	— 12.325
	(* 35) W.	48.0	3.0	18.0	48 3.00	2 39.281	+ 1 8.17	— 11.396
	Melpomene	56.0	11.0	26.5	49 11.17	3 37.684		
	34401, Lalande	7.2	22.6	37.2	50 22.33	2 38.271	+ 3 17.70	— 12.263
	(* 35) W.	17.0	32.0	47.0	52 32.00	2 39.148	+ 1 8.03	— 11.386
	Melpomene	25.1	40.0	55.0	53 40.03	3 37.541		
	34401, Lalande	11.2	26.0	41.2	54 26.13	2 38.119	+ 3 17.70	— 12.426
	(* 35) W.	21.0	35.7	51.0	56 35.90	2 38.998	+ 1 7.93	— 11.547
	Melpomene	29.1	44.0	58.4	57 43.83	3 37.552		
	34401, Lalande	20.2	35.0	50.0	58 35.06	2 38.031	+ 3 18.31	— 12.472
	(* 35) W.	30.0	45.0	0.0	7 0 45.00	2 39.012	+ 1 8.37	— 11.491
	Melpomene	38.4	53.2	8.5	1 53.37	3 37.510		
	34401, Lalande	23.0	38.0	53.0	2 38.00	2 37.954	+ 3 18.60	— 12.541
	(* 35) W.	33.0	48.0	3.0	4 48.00	2 38.879	+ 1 8.60	— 11.616
	Melpomene	41.6	57.0	11.2	5 56.60	3 37.502		
	34401, Lalande	31.5	46.0	1.0	5 46.16	2 37.810	+ 3 18.84	— 12.640
	(* 35) W.	41.0	56.0	11.0	8 56.00	2 38.800	+ 1 9.00	— 11.650
	Melpomene	50.0	5.0	20.0	9 5.00	3 37.457		
10	(* 35) W.	26.2	41.0	56.0	6 15 41.07	2 37.665	+ 4 19.93	— 40.421
	Melpomene	46.0	1.0	16.0	20 1.00	5 35.032		
	(* 36) W.	. .	3.0	18.0	21 3.00	2 37.395	— 1 2.00	— 40.691
	(* 35) W.	37.2	52.0	7.0	22 52.07	2 37.505	+ 4 19.86	— 40.624
	Melpomene	57.0	12.0	26.8	27 11.93	5 35.075		
	(* 36) W.	59.0	. .	29.0	28 14.00	2 37.272	— 1 2.07	— 40.857
	(* 35) W.	3.7	19.0	34.0	29 18.90	2 37.433	+ 4 20.26	— 40.752
	Melpomene	24.0	39.5	54.0	33 39.16	5 35.131		
	(* 36) W.	26.0	41.0	56.2	34 41.07	2 37.260	— 1 1.91	— 40.925
	(* 35) W.	20.2	36.0	51.0	35 35.73	2 37.562	+ 4 21.10	— 40.732
	Melpomene	41.5	57.0	12.0	39 56.83	5 35.240		
	(* 36) W.	42.2	57.0	13.0	40 57.40	2 37.255	— 1 0.57	— 41.039
	(* 35) W.	45.2	0.4	15.2	42 0.26	2 37.432	+ 4 21.37	— 40.710
	Melpomene	6.4	21.5	37.0	46 21.63	5 35.088		
	(* 36) W.	7.0	22.0	37.2	47 22.07	2 37.172	— 1 0.44	— 40.970
	(* 35) W.	36.0	45.0	0.2	54 45.07	2 37.392	+ 4 22.70	— 40.972
	Melpomene	52.6	7.7	23.0	59 7.77	5 35.310		
	(* 36) W.	52.0	7.0	22.0	0 7.00	2 37.300	— 0 59.23	— 41.064
11	(* 36) W.	48.0	3.0	18.0	6 18 3.00	1 36.849	+ 0 36.00	— 54.674
	Melpomene	. .	39.0	54.0	18 39.00	5 31.398		
	(* 36) W.	29.1	44.2	59.5	20 44.27	1 36.752	+ 0 36.73	— 54.983
	Melpomene	6.0	21.0	36.0	21 21.00	5 31.610		
	(* 36) W.	20.0	35.0	49.5	22 34.83	1 36.825	+ 0 36.17	— 54.881
	Melpomene	56.0	11.0	26.0	23 11.00	5 31.581		

RESULTS.

m. s.
Corr. Chron. — 0 24.09

	α	δ
	h. m. s.	° ′ ″
34401, Lalande,	18 27 52.24	—18 54 5.61
(* 35) W.,	18 30 2.24	—18 54 18.42

Melpomene—34401, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 49 52.84	+ 3 17.47	— 3 10.02
	Δt	+ .54	
	Δρ	— .01	— .21
	p	+ .09	+ 3.66

Melpomene—(* 35) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 52 22.83	+ 1 7.99	— 2 56.41
	Δt	+ .18	
	Δρ	— .01	— .20
	p	+ .10	+ 3.66

m. s.
Corr. Chron. — 0 24.32

	α	δ
	h. m. s.	° ′ ″
(* 35) W.,	18 30 2.21	—18 54 18.46
(* 36) W.,	18 35 25.00	—18 54 15.35

Melpomene—(* 35) W.,

		Δα	Δδ
	h. m s.	m. s.	′ ″
M. T.	6 37 18.73	+ 4 20.87	—10 25.57
	Δt	+ .72	
	Δρ	— .01	— .68
	p	+ .09	+ 3.64

Melpomene—(* 36) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 37 18.73	— 1 1.04	—10 28.98
	Δt	— .16	
	Δρ	— .01	— .68
	p	+ .09	+ 3.64

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 11	(* 36) W.	54.1	9 1	24.0	6 25 9.07	1 36.891	+ 0 36.93	— 54.456
	Melpomene	31.0	46 0	1.0	25 46.00	5 31.222		
	(* 36) W.	34.1	49.0	4.0	26 49.03	1 36.889	+ 0 37.04	— 54.935
	Melpomene	11.0	26.0	41.2	27 26.07	5 31.699		
	(* 36) W.	58.0	13.1	28.0	28 13.03	1 36.795	+ 0 36.87	— 54.758
	Melpomene	35.0	49.5	5.2	28 49.90	5 31.428		
	(* 36) W.	28.7	43.7	58.7	29 43.70	1 36.769	+ 0 37.03	— 54.994
	Melpomene	6.0	21.0	35.2	30 20.73	5 31.638		
	(* 36) W.	57.3	12.0	27.5	31 12.26	1 36.781	+ 0 37.04	— 54.944
	Melpomene	34.0	49.4	4.5	31 49.30	5 31.600		
	(* 36) W.	14.2	29.0	44.0	34 29.07	1 36.721	+ 0 37.60	— 54.916
	Melpomene	51.5	7.0	21.5	35 6.67	5 31.512		
	(* 36) W.	48.2	3.0	18.2	36 3.13	1 36.721	+ 0 37.44	— 54.876
	Melpomene	25.1	40.9	55.7	36 40.57	5 31.472		
	(* 36) W.	13.6	28.0	43.6	37 28.40	1 36.628	+ 0 37.70	— 54.989
	Melpomene	50.7	6.0	21.6	38 6.10	5 31.492		
	(* 36) W.	44.2	59.0	14.0	38 59.07	1 36.612	+ 0 37.93	— 55.054
	Melpomene	22.0	37.0	52.0	39 37.00	5 31.541		
	(* 36) W.	31.0	46 0	1.5	41 46.16	1 36.640	+ 0 37.87	— 55.114
	Melpomene	9.0	24.1	39.0	42 24.03	5 31.629		
	(* 36) W.	5.2	20.0	35.1	43 20.10	1 36.565	+ 0 37.97	— 55.105
	Melpomene	43.0	58.0	13.2	43 58.07	5 31.545		
	(* 36) W.	45.7	0.8	16.2	45 0.90	1 36.550	+ 0 37.73	— 55.085
	Melpomene	23.2	38.7	54.0	45 38.63	5 31.510		
	(* 36) W.	14.1	29.0	44.0	46 29.03	1 36.512	+ 0 37.84	— 55.081
	Melpomene	51.6	7.0	22.0	47 6.87	5 31.468		
	(* 36) W.	33.2	48.2	3.0	49 48.13	1 36.531	+ 0 38.27	— 55.166
	Melpomene	11.2	27.0	41.0	50 26.40	5 31.572		
	(* 36) W.	9.2	24.0	39.0	51 24.07	1 36.569	+ 0 38.23	— 54.988
	Melpomene	47.5	2.2	17.2	52 2.30	5 31.432		
	(* 36) W.	46.4	1.2	17.0	53 1.53	1 36.509	+ 0 38.50	— 55.056
	Melpomene	25.1	40.0	55.0	53 40.03	5 31.440		
	(* 36) W.	10.5	25.7	40.2	54 25.47	1 36.438	+ 0 38.53	— 55.146
	Melpomene	49.0	4.0	19.0	55 4.00	5 31.459		
15	Melpomene	22.0	37.5	52.0	6 52 37.16	3 37.939		
	1304, Madrass	48.0	3.0	18.0	54 3.00	2 34.929	— 1 25.84	— 16.003
	Melpomene	29.0	44.0	59.2	56 44.07	3 38.040		
	1304, Madrass	55.0	10.0	25.0	58 10.00	2 35.141	— 1 25.93	— 15.892
	Melpomene	38.2	53.5	8.0	59 53.23	3 38.135		
	1304, Madrass	4.0	19.0	. .	7 1 18.86	2 35.075	— 1 25.63	— 16.053
	Melpomene	53.6	9.0	23.6	2 8.73	3 37.952		
	1304, Madrass	19.0	34.2	48.7	3 33.97	2 35.001	— 1 25.24	— 15.944
	Melpomene	8.2	23.2	38.2	4 23.20	3 38.131		
	1304, Madrass	33.6	48.5	3.6	5 48.57	2 35.019	— 1 25.37	— 16.105
	Melpomene	27.8	43.1	58.1	6 43.00	3 37.942		
	1304, Madrass	53.0	8.0	23.0	8 8.00	2 35.049	— 1 25.00	— 15.886

RESULTS.

m. s.
Corr. Chron. — 0 25.20

	a	δ
	h. m. s.	° ″ ′
(* 36) W.,	18 35 24.98	—18 54 15.36

Melpomene—(* 36) W.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 36 56.48	+ 0 37.47	—14 4.71
		Δt + .11	
		Δϱ — .02	— .92
		p + .09	+ 3.63

m. s.
Corr. Chron. — 0 29.05

	a	δ
	h. m. s.	° ″ ′
1304, Madrass,	18 44 16.66	—19 17 30.00

Melpomene—1304, Madrass,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	7 5 21.06	— 1 25.04	— 4 6.28
		Δt — .23	
		Δϱ — .01	— .31
		p + .12	+ 3.50

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 15	Melpomene	57.0	12.2	27.0	7 9 12.07	3 38.152		
	1304, Madrass	22.0	37.0	52.0	10 37.00	2 35.062	— 1 24.93	— 16.083
	Melpomene	57.5	12.3	28.1	13 12.63	3 38.014		
	1304, Madrass	21.9	37.0	52.0	14 36.97	2 35.042	— 1 24.34	— 15.965
	Melpomene	22.0	37.0	52.0	15 37.00	3 38.020		
	1304, Madrass	46.4	1.0	16.2	17 1.20	2 34.949	— 1 24.20	— 16.064
	Melpomene	35.1	50.0	5.0	17 50.03	3 38.108		
	1304, Madrass	58.9	14.0	29.1	19 14.00	2 34.852	— 1 23.97	— 16.249
16	1304, Madrass	12.6		43.0	6 31 27.80	2 36.875	+ 0 15.50	— 27.507
	Melpomene	28.6		58.0	31 43.30	4 38.473		
	1304, Madrass	44.0	-	13.9	32 58.95	2 36.849	+ 0 16.80	— 27.410
	Melpomene	1.0	-	30.5	33 15.75	4 38.350		
	1304, Madrass	38.2	-	8.0	34 53.10	2 36.858	+ 0 16.70	— 27.369
	Melpomene	55.0	-	24.6	35 9.80	4 38.318		
	1304, Madrass	27.2	-	58.1	36 42.65	2 36.862	+ 0 16.45	— 27.467
	Melpomene	44.2	-	14.0	36 59.10	4 38.410		
	1304, Madrass	46.1	-	-	38 1.06	2 36.882	+ 0 16.69	— 27.357
	Melpomene	2.5	-	33.0	38 17.75	4 38.330		
	1304, Madrass	28.1	-	57.6	40 42.85	2 36.725	+ 0 17.15	— 27.434
	Melpomene	45.0	-	15.0	41 0.00	4 38.250		
	1304, Madrass	30.0	-	0.0	42 45.00	2 36.831	+ 0 17.50	— 27.130
	Melpomene	47.5	-	17.5	43 2.50	4 38.052		
	1304, Madrass	48.2	-	17.9	45 3.05	2 36.622	+ 0 16.95	— 27.505
	Melpomene	5.0	-	35.0	45 20.00	4 38.218		
	1304, Madrass	18.0	-	47.5	49 32.75	2 36.792	+ 0 17.35	— 27.427
	Melpomene	35.2		5.0	49 50.10	4 38.310		
	1304, Madrass	57.5	-	27.7	51 12.60	2 36.745	+ 0 17.65	— 27.486
	Melpomene	15.0	-	45.5	51 30.25	4 38.322		
19	Melpomene	47.0	2.0	17.0	7 1 2.00	5 33.350		
	35497, Lalande	16.0	-	46.0	5 31 00	4 28.849	— 4 29.00	— 21.646
	Melpomene	14.0	29.0	44.0	9 29.00	5 33.189		
	35497, Lalande	42.0	57.0	13.2	13 57.40	4 28.746	— 4 28.40	— 21.588
	Melpomene	29.0	44.0	59.0	16 44.00	5 33.059		
	35497, Lalande	56.5	12.0	27.0	21 11.83	4 28.741	— 4 27.83	— 21.463
20	Melpomene	57.5	12.5	27.0	6 16 12.33	4 40.679		
	35497, Lalande	41.0	56.0	11.6	18 56.20	2 35.582	— 2 43.87	— 31.006
	Melpomene	11.0	26.0	40.7	21 25.90	4 40.604		
	35497, Lalande	54.5	9.0	24.6	24 9.37	2 35.499	— 2 43.47	— 31.014
	Melpomene	0.5	15.0	31.0	24 15.50	4 40.580		
	35497, Lalande	44.0	59.0	15.0	26 59.33	2 35.475	— 2 43.83	— 31.014
	Melpomene	46.1	0.6	16.0	28 0.90	4 40.550		
	35497, Lalande	29.0	44.0	59.0	30 44.00	2 35.390	— 2 43.10	— 31.069
	Melpomene	31.0	46.0	0.8	33 45.93	4 40.612		
	35497, Lalande	13.8	29.0	44.0	36 28.93	2 35.391	— 2 43.00	— 31.130

RESULTS.

m. s.
Corr. Chron. — 0 29.55

	a	δ
	h. m. s.	° ′ ″
1304, Madrass,	18 44 16.64	—19 17 30.01

Melpomene—1304, Madrass,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 40 7.30	+ 0 16.87	— 7 1.27
	Δt	+ .05	
	Δρ	— .01	— .48
	p	+ .10	+ 3.52

m. s.
Corr. Chron. — 0 31.55

	a	δ
	h. m. s.	° ′ ″
35497, Lalande,	18 54 22.25	—19 27 12.20

Melpomene—35497, Lalande,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 8 33.45	— 4 28.41	— 5 31.46
	Δt	— .74	
	Δρ	— .02	— .45
	p	+ .13	+ 3.41

m. s.
Corr. Chron. — 0 31.92

	a	δ
	h. m. s.	° ′ ″
35497, Lalande,	18 54 22.23	—19 27 12.22

Melpomene—35497, Lalande,

		Δa	Δδ
	h. m. s.	m s.	′ ″
M. T.	6 30 17.82	— 2 43.11	— 7 57.23
	Δt	— .44	
	Δρ	— .01	— .56
	p	+ .09	+ 3.48

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 20	Melpomene	3.1	19.0	33.0	6 37 18.37	4 40.535		
	35497, Lalande	46.0	1.0	16.0	40 1.00	2 35.252	— 2 42.63	— 31.192
	Melpomene	41.0	56.6	11.2	40 56.27	4 40.442		
	35497, Lalande	24.0	39.0	54.0	43 39.00	2 35.212	— 2 42.73	— 31.139
	Melpomene	28.1	42.0	58.0	44 42.70	4 40.290		
	35497, Lalande	10.0	24.8	40.0	47 24.93	2 35.361	— 2 42.23	— 30.838
21	Melpomene	59.0	14.0	29.0	6 12 14.00	5 32.778		
	35497, Lalande	- -	9.5	25.0	13 9.54	2 35.730	— 0 55.54	— 40.102
	Melpomene	28.2	43.4	59.0	14 43.53	5 32.701		
	35497, Lalande	24.1	39.0	54.0	15 39.03	2 35.638	— 0 55.50	— 40.117
	Melpomene	14.4	29.0	44.0	16 29.13	5 32.651		
	35497, Lalande	9.2	24.3	39.6	17 24.37	2 35.614	— 0 55.24	— 40.091
	Melpomene	53.0	8.0	23.1	18 8.03	5 32.737		
	35497, Lalande	48.5	3.7	18.6	19 3.60	2 35.592	— 0 55.57	— 40.199
	Melpomene	33.0	48.5	3.5	19 48.33	5 32.529		
	35497, Lalande	29.1	43.7	59.1	20 43.97	2 35.518	— 0 55.64	— 40.065
	Melpomene	14.6	29.1	44.9	21 29.53	5 32.595		
	35497, Lalande	9.0	24.7	39.6	22 24.43	2 35.521	— 0 54.90	— 40.128
	Melpomene	53.2	8.7	23.5	26 8.47	5 32.632		
	35497, Lalande	48.1	3.0	18.0	27 3.03	2 35.592	— 0 54.56	— 40.094
	Melpomene	35.1	50.0	5.0	27 50.03	5 32.642		
	35497, Lalande	29.0	44.7	59.7	28 44.47	2 35.589	— 0 54.44	— 40.107
	Melpomene	19.0	34.0	49.0	29 34.00	5 32.709		
	35497, Lalande	14.0	29.0	44.0	30 29.00	2 35.600	— 0 55.00	— 40.163
	Melpomene	9.5	24.0	39.1	31 24.20	5 32.642		
	35497, Lalande	3.5	19.0	33.5	32 18.66	2 35.541	— 0 54.46	— 40.155
	Melpomene	48.1	2.7	18.0	34 2.93	5 32.712		
	35497, Lalande	42.0	56.5	12.0	34 56.83	2 35.645	— 0 53.90	— 40.121
	Melpomene	25.0	40.0	55.1	35 40.03	5 32.762		
	35497, Lalande	19.0	34.0	49.0	36 34.00	2 35.678	— 0 53.97	— 40.138
	Melpomene	56.0	11.0	26.2	40 11.07	5 32.802		
	35497, Lalande	50.0	5.0	20.0	41 5.00	2 35.600	— 0 53.93	— 40.256
	Melpomene	55.1	10.2	25.1	42 10.13	5 32.768		
	35497, Lalande	48.7	4.0	19.0	43 3.90	2 35.618	— 0 53.77	— 40.204
23	35497, Lalande	1.8	17.5	32.9	6 2 17.40	1 36.251	+ 2 44.60	— 56.382
	Melpomene	47.0	2.0	17.0	5 2.00	5 32.508		
	35497, Lalande	53.8	9.1	24.1	6 9.00	1 36.208	+ 2 44.37	— 56.572
	Melpomene	38.0	54.0	8.1	8 53 37	5 32.655		
	35497, Lalande	26.0	41.5	56.5	10 41.33	1 36.208	+ 2 44.67	— 56.547
	Melpomene	11.0	26.0	41.0	13 26.00	5 32.630		
	35497, Lalande	6.2	21.0	36.0	14 21.07	1 36.052	+ 2 44.93	— 56.443
	Melpomene	51.0	6.0	- -	17 6.00	5 32.370		
	35497, Lalande	52.0	6.5	21.7	19 6.73	1 36.135	+ 2 45.43	— 56.522
	Melpomene	37.5	52.0	7.0	21 52.16	5 32.532		

RESULTS.

21 — m. s. Corr. Chron. — 0 32.46

	α (h. m. s.)	δ (° ′ ″)
35497, Lalande,	18 54 22.21	—19 27 12.25

Melpomene—35497, Lalande,

		Δα (m. s.)	Δδ (′ ″)
M. T.	6 25 52.78	— 0 54.74	—10 16.92
	Δt —	.15	
	Δϱ —	.02	— .72
	p +	.09	+ 3.47

23 — m. s. Corr. Chron. — 0 33.70

	α (h. m. s.)	δ (° ′ ″)
35497, Lalande,	18 54 22.18	—19 27 12.29

Melpomene—35497, Lalande,

		Δα (m. s.)	Δδ (′ ″)
M. T.	6 22 21.55	+ 2 45.49	—14 29.61
	Δt +	.45	
	Δϱ —	.02	— 1.02
	p +	.09	+ 3.43

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 23	35497, Lalande	24.5	40.1	55.0	6 22 39.87	1 36.140	+ 2 46.13	— 56.495	
	Melpomene	11.0	26.0	41.0	25 26.00	5 32.510			
	35497, Lalande	57.4	12.2	27.8	26 12.47	1 36.050	+ 2 45.79	— 56.726	
	Melpomene	43.0	58.2	13.6	28 58.26	5 32.651			
	35497, Lalande	33.1	48.2	3.5	29 48.26	1 36.089	+ 2 46.11	— 56.786	
	Melpomene	19.5	34.4	49.2	32 34.37	5 32.750			
	35497, Lalande	7.4	22.8	37.6	33 22.60	1 36.172	+ 2 46.40	— 56.638	
	Melpomene	54.0	9.0	24.0	36 9.00	5 32.685			
	35497, Lalande	44.1	58.5	14.0	36 58.87	1 35.985	+ 2 46.46	— 56.685	
	Melpomene	30.0	45.5	0.5	39 45.33	5 32.545			
24	Melpomene	32.0	47.0	2.1	6 49 47.03	5 43.960			
	6536, B. A. C.	5.0	20.0	35.0	50 20.00	2 37.318	— 0 32.97	— 49.696	Corr. Chron. — 0 m. s. 34.61
	Melpomene	12.0	27.0	42.0	51 27.00	5 43.559			α δ
	6536, B. A. C.	45.0	59.5	15.0	51 59.83	2 37.150	— 0 32.83	— 49.463	6536, B. A C., 18 h. m. s. 59 36.06 — 19° 30′ 58″.76
	Melpomene	19.1	34.2	49.1	53 34.13	5 43.702			
	6536, B. A. C.	52.0	6.8	22.0	54 6.93	2 37.231	— 0 32.80	— 49.525	Melpomene—6536, B. A. C.,
	Melpomene	29.1	44.1	59.0	55 44.06	5 43.682			Δα Δδ
	6536, B. A. C.	2.2	16.5	32.0	56 16.90	2 37.142	— 0 32.84	— 49.594	M. T. 7 h. m. s. 0 13.49 — 0 m. s. 32.27 — 12′ 42″.65
	Melpomene	52.4	8.0	23.2	57 7.87	5 43.662			Δt — .09
	6536, B. A. C.	25.0	40.5	56.0	57 40.83	2 37.130	— 0 32.96	— 49.586	Δρ — .04 — 1.06
	Melpomene	11.2	26.0	41.8	59 26.33	5 43.548			p + .13 + 3.33
	6536, B. A. C.	- -	59.0	14.2	59 59.10	2 37.122	— 0 32.77	— 49.480	
	Melpomene	29.1	44.2	59.0	7 1 44.10	5 43.738			
	6536, B. A. C.	1.5	16.2	30.8	2 16.17	2 37.158	— 0 32.07	— 49.634	
	Melpomene	54.0	9.0	24.4	3 9.13	5 43.738			
	6536, B. A. C.	26.2	42.0	57.0	3 41.40	2 37.095	— 0 32.27	— 49.697	
	Melpomene	13.0	28.1	43.0	6 28.03	5 43.678			
	6536, B. A. C.	44.5	59.2	15.0	6 59.57	2 37.000	— 0 31.54	— 49.732	
	Melpomene	35.9	51.0	7.4	7 51.43	5 43.601			
	6536, B. A. C.	8.0	23.0	38.0	8 23.00	2 37.045	— 0 31.57	— 49.610	
	Melpomene	18.2	34.0	48.0	10 33.40	5 43.539			
	6536, B. A. C.	48.7	5.0	20.0	11 4.57	2 36.862	— 0 31.17	— 49.731	
	Melpomene	29.2	45.1	59.7	12 44.67	5 43.519			
	6536, B. A. C.	0.0	16.2	32.0	13 16.07	2 36.869	— 0 31.40	— 49.704	
25	6536, B. A. C.	50.2	5.0	20.2	6 23 5 13	1 35.558	+ 1 17.03	— 56.272	Corr. Chron. — 0 m. s. 35.30
	Melpomene	7.0	22.0	37.5	24 22.16	5 31.705			α δ
	6536, B. A. C.	27.6	42.6	58.0	26 42.73	1 35.545	+ 1 17.34	— 56.270	6536, B. A. C., 18 h. m. s. 59 36.04 — 19° 30′ 58″.91
	Melpomene	45.0	0.2	15.0	28 0.07	5 31.690			
	6536, B. A. C.	33.1	48.2	3.2	28 48.17	1 35.603	+ 1 17.76	— 56.311	Melpomene—6536, B. A. C.,
	Melpomene	50.8	6.0	21.0	30 5.93	5 31.789			Δα Δα
	6536, B. A. C.	56.1	10.6	26.0	31 10.90	1 35.669	+ 1 17.10	— 56.266	M. T. 6 h. m. s. 35 14.29 + 1 m. s. 17.94 — 14′ 26″.06
	Melpomene	13.0	28.0	43.0	32 28.00	5 31.810			Δt + 0.21
	6536, B. A. C.	5.0	20.0	35.0	33 20.00	1 35.580	+ 1 18.00	— 56.376	Δρ — .03 — 1.09
	Melpomene	23.0	38.0	53.0	34 38.00	5 31.831			p + .11 + 3.38

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 25	6536, B. A. C.	13.4	28.0	43.2	6 35 28.20	1 35.530	+ 1 18.13	— 56.304	
	Melpomene	31.0	46.0	2.0	36 46.33	5 31.709			
	6536, B. A. C.	17.1	32.0	47.0	38 32.03	1 35.572	+ 1 18.04	— 56.371	
	Melpomene	35.0	50.0	5.2	39 50.07	5 31.818			
	6536, B. A. C.	21.9	36.2	52.0	40 36.70	1 35.491	+ 1 18.30	— 56.434	
	Melpomene	40.0	55.0	10.0	41 55.00	5 31.800			
	6536, B. A. C.	26.2	41.0	56.5	42 41.23	1 35.499	+ 1 18.77	— 56.365	
	Melpomene	45.0	0.0	15.0	44 0.00	5 31.739			
	6536, B. A. C.	36.5	51.0	6.5	44 51.33	1 35.378	+ 1 18.97	— 56.517	
	Melpomene	55.4	10.0	25.5	46 10.30	5 31.770			
Nov. 7	36857, Lalande	41.6	56.2	12.0	7 1 56.60	1 47.778	+ 3 31.56	— 55.385	m. s. Corr. Chron. — 0 41.30
	Melpomene	13.0	28.0	43.5	5 28.16	5 43.038			a δ
	36857, Lalande	9.0	24.0	39.0	7 24.00	1 47.728	+ 3 32.00	— 55.449	h. m. s. ° ′ ″
	Melpomene	41.0	56.0	11.0	10 56.00	5 43.052			36857, Lalande, 19 23 3.37 —19 41 30.36
	36857, Lalande	57.5	13.2	28.2	14 12.97	1 47.518	+ 3 33.03	— 55.317	Melpomene—36857, Lalande,
	Melpomene	31.0	46.0	1.0	17 46.00	5 42.710			△a △δ
	36857, Lalande	10.3	25.6	40.8	21 25.57	1 47.356	+ 3 33.33	— 55.281	h. m. s. m. s. ′ ″
	Melpomene	44.2	58.5	14.0	24 58.90	5 42.512			M. T. 7 20 36.21 + 3 32.85 —14 9.22
	36857, Lalande	58.2	13.9	28.7	27 13.60	1 46.931	+ 3 33.40	— 55.083	Δt + .58
	Melpomene	32.0	47.0	2.0	30 47.00	5 41.889			Δq — .09 — 1.83
	36857, Lalande	0.1	15.0	30.5	34 15.20	1 46.391	+ 3 33.80	— 55.003	p + .16 + 3.02
	Melpomene	- -	49.0	- -	37 49.00	5 41.269			
9	(* 38) W.	37.1	52.5	8.0	6 15 52.53	2 33.491	+ 3 59.47	— 4.987	m. s. Corr. Chron. — 0 40.70
	Melpomene	37.0	52.0	7.0	19 52.00	2 38.478			a δ
	(* 38) W.	18.0	33.0	48.1	25 33.03	2 33.278	+ 4 0.14	— 5.123	h. m. s. ° ′ ″
	Melpomene	18.5	33.0	48.0	29 33.17	2 38.401			(* 38) W., 19 26 0.00 —19 53 0.00
	(* 38) W.	10.0	25.0	40.0	34 25.00	2 33.215	+ 4 1.00	— 4.945	Melpomene—(* 38) W.,
	Melpomene	11.0	26.0	41.0	38 26.00	2 38.160			△a △δ
	(* 38) W.	44.0	59.0	14.2	39 59.07	2 32.950	+ 4 2.00	— 5.210	h. m. s. m. s. ′ ″
	Melpomene	46.0	1.0	16.2	44 1.07	2 38.160			M. T. 6 32 17.36 + 4 0.65 — 1 17.86
									Δt + .66
									Δq .00 — .11
									p + .12 + 3.13
19	Melpomene	46.0	1.0	16.0	6 33 1.00	4 49.716			m. s. Corr. Chron. — 0 48.11
	38164, Lalande	15.0	30.0	45.0	34 30.00	1 42.670	— 1 29.00	— 50.026	a δ
	Melpomene	27.1	42.5	58.0	7 18 42.53	5 38.060			h. m. s. ° ′ ″
	38164, Lalande	53.0	8.0	23.0	20 8.00	2 31.518	— 1 25.47	— 49.596	38164, Lalande, 19 53 26.81 +19 30 9.72
	Melpomene	40.0	55.0	10.5	22 55.16	5 37.580			Melpomene—38164, Lalande,
	38164, Lalande	4.5	19.0	35.0	24 19.50	2 31.248	— 1 24 34	— 49.386	△a △δ
	Melpomene	7.0	23.2	- -	26 23.26	5 37.199			h. m. s. m. s. ′ ″
	38164, Lalande	31.6	46.5	1.7	27 46.60	2 30.788	— 1 23.34	— 49.465	M. T. 7 13 40.28 — 1 25.20 —12 39.57
									Δt — .23
									Δq — .10 — 1.85
	Melpomene	5.0	20.0	35.0	31 20.00	5 36.090			p + .16 + 2.86
	38164, Lalande	28.5	44.0	59.0	32 43.83	2 30.515	— 1 23.83	— 48.629	

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 21	38164, Lalande	27.0	42.0	57.5	6 20 42.17	1 32.105	+ 2 51.83	— 33.391
	Melpomene	19.0	34.0	49.0	23 34.00	3 35.432		
	6923, B. A. C.	51.1	6.0	21.0	29 6.03	5 43.539	— 5 32.03	+ 38.168
	38164, Lalande	24.3	39.0	54.6	30 39.30	1 31.692	+ 2 52.70	— 33.444
	Melpomene	17.0	32.0	47.0	33 32.00	3 35.072		
	6923, B. A. C.	48.0	3.0	17.0	39 2.67	5 43.072	— 5 30.67	+ 38.061
	38164, Lalande	53.1	8.2	23.0	42 8.10	1 31.275	+ 2 53.57	— 33.167
	Melpomene	46.0	2.0	17.0	45 1.67	3 34.378		
	6923, B. A. C.	16.2	31.0	46.5	50 31.23	5 42.642	— 5 29.56	+ 38.325
	38164, Lalande	34.0	49.1	4.0	51 49.03	1 30.679	+ 2 54.14	— 33.284
	Melpomene	28.0	43.0	58.5	54 43.17	3 33.899		
	6923, B. A. C.	57.2	12.6	27.5	7 0 12.43	5 42.099	— 5 29.26	+ 38.261
27	Melpomene	47.0	2.0	17.0	5 40 2.00	2 34.698		
	6981, B. A. C.	7.0	22.0	37.0	41 22.00	5 39.041	— 1 20.00	+ 47.397
	Melpomene	12.0	27.0	42.0	44 27.00	2 34.782		
	6981, B. A. C.	30.8	47.0	1.8	45 46.53	5 38.985	— 1 19.53	+ 47.257
	Melpomene	43.5	59.0	14.1	46 58.86	2 34.700		
	6981, B. A. C.	. .	18.1	33.0	48 18.08	5 39.019	— 1 19.22	+ 47.373
	Melpomene	58.1	12.4	27.6	49 12.70	2 34.462		
	6981, B. A. C.	16.0	31.0	46.0	50 31.00	5 39.018	— 1 18.30	+ 47.610
	Melpomene	19.2	34.6	49.5	51 34.43	2 34.622		
	6981, B. A. C.	38.0	53.0	8.0	52 53.00	5 38.996	— 1 18.57	+ 47.428
	Melpomene	25.0	40.0	55.1	54 40.03	2 34.475		
	6981, B. A. C.	43.6	58.4	14.0	55 58.66	5 39.001	— 1 18.63	+ 47.580
	Melpomene	34.2	49.1	4.3	56 49.20	2 34.422		
	6981, B. A. C.	52.2	6.5	22.0	58 6.90	5 38.901	— 1 17.70	+ 47.533
	Melpomene	54.0	9.0	. .	59 9.40	2 34.460		
	6981, B. A. C.	12.6	27.2	43.0	6 0 27.60	5 38.842	— 1 18.20	+ 47.436
	Melpomene	31.0	46.0	1.0	4 46.00	2 34.338		
	6981, B. A. C.	48.0	4.0	19.0	6 3.66	5 38.872	— 1 17.66	+ 47.588
	Melpomene	30.9	45.7	1.0	7 45.87	2 34.179		
	6981, B. A. C.	47.3	2.5	18.0	9 2.60	5 38.750	— 1 16.73	+ 47.625
	Melpomene	50.9	6.0	20.9	10 5.93	2 34.162		
	6981, B. A. C.	8.1	23.2	38.0	11 23.10	5 38.711	— 1 17.17	+ 47.603
	Melpomene	2.0	17.0	32.1	12 17.03	2 34.095		
	6981, B. A. C.	. .	33 5	45.5	13 33.61	5 38.712	— 1 16.58	+ 47.671
	Melpomene	18.1	33.4	48.0	14 33.17	2 33.970		
	6981, B. A. C.	34.0	49.1	4.1	15 49.06	5 38.742	— 1 15.89	+ 47.826
	Melpomene	41.2	56.0	11.0	16 56.07	2 33.866		
	6981, B. A. C.	57.0	12.0	27.0	18 12.00	5 38.612	— 1 15.93	+ 47.800
	Melpomene	30.1	45.1	59.7	20 44.96	2 33.761		
	6981, B. A. C.	45.8	1.0	16.0	22 0.93	5 38.532	— 1 15.97	+ 47.825
	Melpomene	43.7	58.2	13.6	22 58.50	2 33.630		
	6981, B. A. C.	59.0	13.7	29.2	24 13.96	5 38.482	— 1 15.46	+ 47.906

RESULTS.

m. s.
Corr. Chron. — 0 47.67

	α	δ
	h. m. s.	° ′ ″
38164, Lalande,	19 53 26.78	—19 30 9.77
6923, B. A. C.,	20 1 51.70	—19 48 30.60

Melpomene—38164, Lalande,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 38 25.04	+ 2 53.06	— 8 32.13
	Δt +	.48	
	Δρ —	.04	— .90
	p +	.14	+ 2.95

Melpomene—6923, B. A. C.,

	h. m. s.	m. s.	′ ″
M. T.	6 38 25.04	+ 5 30.38	+ 9 47.18
	Δt —	.90	
	Δρ +	.04	+ .96
	p +	.14	+ 2.95

m. s.
Corr. Chron. — 0 48.11

	α	δ
	h. m. s.	° ′ ″
6981, B. A. C.,	20 10 51.99	—19 34 31.85

Melpomene—6981, B. A. C.,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 1 15.71	— 1 17.60	+12 11.45
	Δt —	.21	
	Δρ +	.04	+ 1.05
	p +	.12	+ 2.93

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 28	6981, B. A. C.	14.0	28.5	44.0	5 35 28.83	5 48.480	+ 0 54.23	+ 59.735
	Melpomene	..	23.0	38.0	36 23.56	1 48.870		
	6981, B. A. C.	23.5	39.0	54.0	38 38.83	5 48.709	+ 0 54.17	+ 60.059
	Melpomene	18.0	33.0	48.0	39 33.00	1 48 775		
	6981, B. A. C.	21.8	37.0	52.0	42 36.93	5 48.470	+ 0 54.90	+ 60.054
	Melpomene	17.0	31.5	47.0	43 31.83	1 48.541		
	6981, B. A. C.	22.7	38.0	53.0	46 37.90	5 48.420	+ 0 55.20	+ 60.106
	Melpomene	18.3	33.0	48.0	47 33.10	1 48.439		
	6981, B. A. C.	6.0	21.4	36.8	49 21.40	5 48.342	+ 0 55.57	+ 59.986
	Melpomene	2.0	17.0	31.9	50 16.97	1 48.481		
	6981, B. A. C.	7.2	23.1	37.7	51 22.67	5 48.292	+ 0 55.39	+ 60.143
	Melpomene	3.0	18.0	..	52 18.56	1 48.274		
	6981, B. A. C.	52.0	7.0	22.0	56 7.00	5 48.280	+ 0 56.17	+ 60.216
	Melpomene	48.0	3.0	18.5	57 3.17	1 48.189		
	6981, B. A. C.	46.5	2.1	17.6	59 2.07	5 48.235	+ 0 56.05	+ 60.105
	Melpomene	..	58.0	13.0	59 58.12	1 48.255		
30	Melpomene	56.0	11.0	26.0	5 50 11.00	3 40.345		
	7053, B. A. C.	..	16.2	32.0	55 16.27	1 40.142	— 5 5.27	— 30.267
	7054, B. A. C	..	18.0	33.5	55 18.07	1 39.388	— 5 7.07	— 31.021
	Melpomene	30.7	45.1	1.0	57 45.60	3 40.322		
	7053, B. A. C.	35 0	..	5.0	6 2 50.00	1 40.073	— 5 4.40	— 30.313
	7054, B. A. C.	37.2	.	7.2	2 52.20	1 39.257	— 5 6.60	— 31.129
	Melpomene	15.1	30.5	45.5	5 30.37	3 40.118		
	7053, B. A. C.	19.0	34.2	49.0	10 34.07	1 39.921	— 5 3.70	— 30.261
	7054, B. A. C.	21.0	36.0	51.0	10 36.00	1 39.046	— 5 5.63	— 31.136
	Melpomene	13.5	28.5	44.0	13 28.67	3 39.802		
	7053, B. A. C.	17.0	32.0	47.0	18 32.00	1 38.950	— 5 3.33	— 30.116
	7054, B. A. C.	18.7	33.4	48.5	18 33.53	1 38.928	— 5 4.86	— 30.938
	Melpomene	45.1	0.2	..	22 0.27	3 39.432		
	7053, B. A. C.	48.0	..	18.0	27 3.00	1 39.342	— 5 2.73	— 30.154
	7054, B. A. C.	49.5	..	19.4	27 4.45	1 38.582	— 5 4.18	— 30.914
Dec. 1	Melpomene	7.0	22.0	..	5 41 22.06	2 39.888		
	7053, B. A. C.	58.1	13.0	28.2	44 13.10	1 41.392	— 2 51.04	— 15.567
	7054, B. A. C.	0.2	15.2	30.0	44 15.13	1 40.552	— 2 53.07	— 16.407
	Melpomene	11.0	26.0	41.0	46 26.00	2 39.829		
	7053, B. A. C.	1.0	16.0	31.2	49 16.07	1 41.191	— 2 50.07	— 15.709
	7054, B. A. C.	2.8	17.2	33.0	49 17.67	1 40.350	— 2 51.67	— 16.550
	Melpomene	14.0	29.0	44.0	51 29.00	2 39.790		
	7053, B. A. C.	4.6	19.0	34.0	54 19.20	1 41.158	— 2 50.20	— 15.703
	7054, B. A. C.	6.0	20.6	36.0	54 20.87	1 40.330	— 2 51.87	— 16.531
	Melpomene	35.0	50.5	5.0	55 50.00	2 39.402		
	7053, B. A. C.	25.0	40.0	55 0	58 40.00	1 40.782	— 2 50 00	— 15.691
	7054, B. A. C.	26.7	41.4	56.2	58 41.43	1 39.932	— 2 51.43	— 16.541
	Melpomene	48.1	3.0	18.1	6 0 3.07	2 39.081		
	7053, B. A. C.	37.2	52.0	7.0	2 52.07	1 40.700	— 2 49.00	— 15.452
	7054, B. A. C.	39.0	53.4	9.0	2 53.80	1 39.768	— 2 50.73	— 16.384
	Melpomene	57.1	12.0	27.1	4 12.07	2 38.990		
	7053, B. A. C.	46.0	1.0	16.0	7 1.00	1 40.476	— 2 48.93	— 15.585
	7054, B. A. C.	47.7	2.4	17.7	7 2.60	1 39.682	— 2 50.53	— 16.379

RESULTS.

Nov. 28

Corr. Chron. — 0 m. s. 48.71

	α	δ
	h. m. s.	° ′ ″
6981, B. A. C.,	20 10 51.99	—19 34 31.88

Melpomene—6981, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	5 47 30.95	+ 0 55.21	+15 22.96
	Δt	+ .15	
	Δϱ	+ .04	+ 1.25
	p	+ .11	+ 2.97

30

Corr Chron. — 0 m. s. 49.28

	α	δ
	h. m. s.	° ′ ″
7053, B. A. C.,	20 21 24.21	—19 4 16.25
7054, B. A. C.,	20 21 25.55	—19 3 57.87

Melpomene—7053, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 4 57.90	— 5 3.89	— 7 44.50
	Δt	— .83	
	Δϱ	— .03	— .67
	p	+ .12	+ 2.88

Melpomene—7054, B. A. C.,

	h. m. s.	m. s.	′ ″
M. T.	6 4 57.90	— 5 5.67	— 7 56.89
	Δt	— .83	
	Δϱ	— .03	— .69
	p	+ .12	+ 2.88

Dec. 1

Corr. Chron — 0 m s. 49.28

	α	δ
	h. m. s.	° ′ ″
7053, B. A. C.,	20 21 24 21	—19 4 16 27
7054, B. A. C.,	20 21 25 56	—19 3 57.94

Melpomene—7053, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 1 5.59	— 2 49.04	— 3 58.75
	Δt	— .47	
	Δϱ	— .01	— .34
	p	+ .11	+ 2.87

Melpomene—7054, B. A. C.,

	h. m s.	m. s.	′ ″
M. T.	6 1 5.59	— 2 50.69	— 4 11.97
	Δt	— .47	
	Δϱ	— .01	— .36
	p	+ .11	+ 2.87

(Continued.)

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 1	Melpomene	8.1	23.1	38.0	6 8 23.06	2 38.762		
	7053, B. A. C.	56.5	11.0	27.0	11 11.50	1 40.278	— 2 48.44	— 15.555
	7054, B. A. C.	58.0	12.7	28.2	11 12.97	1 39.501	— 2 49.91	— 16.332
	Melpomene	24.7	39.5	55.1	12 39.77	2 38.505		
	7053, B. A. C.	13.0	28.0	.	15 28.28	1 40.122	— 2 48.51	— 15.454
	7054, B. A. C.	14.4	29.6	44.2	15 29.40	1 39.262	— 2 49.63	— 16.314
	Melpomene	59.7	14.2	29.6	17 14.50	2 38.071		
	7053, B. A. C.	47.0	1.0	17.2	20 1.40	1 39.822	— 2 46.90	— 15.320
	7054, B. A. C.	48.5	3.3	19.0	20 3.60	1 38.943	— 2 49.10	— 16.199
	Melpomene	14.0	29.2	44.2	21 29.13	2 37.826		
	7053, B. A. C.	1.8	16.5	31.1	24 16.47	1 39.591	— 2 47.34	— 15.306
	7054, B. A. C.	3.2	18.1	33.0	24 18.10	1 38.598	— 2 48.97	— 16.299
5	Melpomene	18.5	33.0	48.0	57 33.17	4 42.830		
	7134, B. A. C.	10.0	24.5	40.2	7 1 24.90	1 37.901	— 3 51.73	— 47.909
	Melpomene	38.5	53.2	9.0	2 53.57	4 42.448		
	7134, B. A. C.	29.0	44.0	59.0	6 44.00	1 37.549	— 3 50.43	— 47.879
	Melpomene	48.1	3.1	18.0	8 3.07	4 41.861		
	7134, B. A. C.	38.0	52.9	8.0	11 52.97	1 37.190	— 3 49.90	— 47.651
	Melpomene	29.1	.	59.1	13 44.10	4 41.152		
	7134, B. A. C.	18.6	33.2	48.5	17 33.43	1 36.639	— 3 49.33	— 47.493
8	7159, B. A. C.	3.2	18.0	33.0	6 4 18.07	4 38.710	+ 0 18.90	+ 0.978
	Melpomene	.	37.0	52.0	4 36.97	4 37.732		
	7159, B. A. C.	48.1	3.0	.	9 3.00	4 38.389	+ 0 19.50	+ 1.191
	Melpomene	8.0	22.0	37.5	9 22.50	4 37.198		
	7159, B. A. C.	37.0	52 0	7.0	20 52.00	4 36.198	+ 0 21.00	+ 1.260
	Melpomene	58.0	13.0	28.0	21 13.00	4 34.938		
	7159, B. A. C.	8.2	23.1	38.2	23 23.17	4 36.292	+ 0 20.83	+ 1.641
	Melpomene	29.0	44.0	59.0	23 44.00	4 34.651		
	7159, B. A. C.	13.0	28.0	42.9	24 27.97	4 36.060	+ 0 21.10	+ 1.447
	Melpomene	34.0	49.0	4.2	24 49.07	4 34 613		
	7159, B. A. C.	42.5	58.1	12.8	25 57.80	4 36.081	+ 0 21.23	+ 1.560
	Melpomene	4.0	19.0	34.1	26 19.03	4 34.521		
	7159, B. A. C.	52.1	7.2	21.9	28 7.07	4 35.929	+ 0 21.26	+ 1.378
	Melpomene	13.3	28.0	43.7	28 28.33	4 34.551		
	7159, B. A. C.	15.2	30.2	44.9	29 30.10	4 35.851	+ 0 21.43	+ 1.419
	Melpomene	36.2	51.4	7.0	29 51.53	4 34.432		
	7159, B. A. C.	31.0	46.0	1.0	31 46.00	4 35.762	+ 0 21.63	+ 1.497
	Melpomene	52.5	7.4	23.1	32 7.63	4 34.265		
	7159, B. A. C.	46.0	1.0	16.0	33 1.00	4 35.660	+ 0 22 10	+ 1.569
	Melpomene	8.0	23.1	38.2	33 23.10	4 34.091		
	7159, B. A. C.	1.2	16.0	.	34 15.86	4 35.681	+ 0 22.21	+ 1.603
	Melpomene	23.0	38.2	53.0	34 38.07	4 34.078		
	7159, B. A. C.	32.5	48.0	3.0	35 47.83	4 35.561	+ 0 22.27	+ 1.569
	Melpomene	55.0	.	25.2	36 10.10	4 33.992		
	7159, B. A. C.	59.7	15.0	30.2	37 14.97	4 35.468	+ 0 22.78	+ 1.514
	Melpomene	23.0	.	52.5	37 37.75	4 33.954		

RESULTS.

m. s.
Corr. Chron. — 0 53.01

	α	δ
	h. m. s.	° ′ ″
7134, B. A. C.,	20 31 38.21	—18 39 17.51

Melpomene—7134, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 4 40.47	— 3 50.35	—12 13.64
		Δt — .63	
		Δϱ — .13	— 2.14
		p + .16	+ 2.65

m. s.
Corr. Chron. — 0 58.94

	α	δ
	h. m. s.	° ′ ″
7159, B. A. C.,	20 34 15.44	—18 38 3.23

Melpomene—7159, B. A. C.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 25 21.14	+ 0 21.25	+ 0 22.02
		Δt + .06	
		Δϱ .00	+ .04
		p + .14	+ 2.71

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m s.	revs.
Dec. 12	7209, B. A. C.	51.7	7.1	22.0	6 12 6.93	5 42.470	+ 2 52.90	+ 69.053
	Melpomene	45.0	0.0	14.5	14 59 83	1 33.542		
	7209, B. A. C.	50.2	5.5	20.7	23 5.47	5 49.470	+ 2 54.36	+ 68.956
	Melpomene	44.5	0.0	15.0	25 59.83	1 40.639		
	7209, B. A. C.	48.1	3.0	18.0	35 3.03	5 48.541	+ 2 55.44	+ 68.875
	Melpomene	44.0	58.2	13.2	37 58.47	1 39.791		
	7209, B. A. C.	47.5	2.5	18.0	42 2.67	5 48.145	+ 2 55.83	+ 69.250
	Melpomene	. .	58.5	. .	44 58.50	1 39.020		
13	Melpomene	54.0	9.0	. .	5 42 9.08	1 37.515		
	7249, B. A. C.	. .	28.0	. .	42 28.00	5 45.208	— 0 18.92	+ 67.818
	Melpomene	57.5	12.5	. .	46 12.58	1 37.152		
	7249, B. A. C.	. .	31.2	46.2	46 31.10	5 45.091	— 0 18.52	+ 68.064
	Melpomene	1.2	. .	31.0	48 16.10	1 37.148		
	7249, B. A. C.	19.2	. .	49.2	48 34.20	5 44.800	— 0 18.10	+ 67.777
	Melpomene	39.5	. .	11.0	51 55.25	1 37.281		
	7249, B. A. C.	58.0	. .	29.0	52 13.50	5 44.770	— 0 18.25	+ 67.604
	Melpomene	50.5	. .	20.0	55 5.25	1 37.585		
	7249, B. A. C.	8.5	. .	38.1	55 23.30	5 44.490	— 0 18.05	+ 67.030
	Melpomene	58.0	. .	. .	56 13.08	1 37.471		
	7249, B. A. C.	15.0	. .	45.0	56 30.00	5 44.563	— 0 16.92	+ 67.217
	Melpomene	42.1	. .	12.0	57 57.05	1 37.450		
	7249, B. A. C.	59.2		30.0	58 14.60	5 44.492	— 0 17.55	+ 67.167
	Melpomene	2.0	.	31.5	59 16.75	1 37.452		
	7249, B. A. C.	19.2	. .	49.1	59 34.15	5 44.480	— 0 17.40	+ 67.153
	Melpomene	55.0	. .	25.1	6 4 10.05	1 36.150		
	7249, B. A. C.	12.0		42.1	4 27.05	5 43.218	— 0 17.00	+ 67.193
	Melpomene	58.0	. .	28.2	5 13.10	1 35.985		
	7249, B. A. C.	15.2	.	45.1	5 30.15	5 43.565	— 0 17.05	+ 67.205
	Melpomene	39.2	. .	8.5	8 53.85	1 35.759		
	7249, B. A. C.	55.2	. .	25.2	9 10.20	5 42.820	— 0 16.35	+ 67.186
	Melpomene	53.2	. .	23.5	10 8.35	1 35.519		
	7249, B. A. C.	9.2	.	39.7	10 24.45	5 42.745	— 0 16.10	+ 67.451
	Melpomene	25.1	. .	55.1	12 40.10	1 35.591		
	7249, B. A. C.	41.2	.	11.5	12 56.35	5 42.682	— 0 16.25	+ 67.216
	Melpomene	30.0	. .	0.2	14 45.10	1 35.251		
	7249, B. A. C.	46.1	. .	16.1	15 1.10	5 42.578	— 0 16.00	+ 67.452
17	7282, B. A. C.	11.2	26.0	41.2	6 0 26.13	5 41.975	+ 2 56.80	+ 72.022
	Melpomene	8.0	. .	. .	3 22 93	1 30.078		
	7282, B. A. C.	20.3	35.8	50.7	5 35.60	5 41.805	+ 2 57.40	+ 72.103
	Melpomene	18.0	33.0	48.0	8 33.00	1 29.827		
	7282, B. A. C.	52.0	7.1	22.0	10 7.04	5 41.620	+ 2 58.59	+ 72.216
	Melpomene	51.0	5.0	20.9	13 5.63	1 29.529		
	7282, B. A. C.	53.6	8.5	23.2	14 8.43	5 41.350	+ 2 58.57	+ 72.224
	Melpomene	52.0	7.0	22.0	17 7.00	1 29.251		
	7282, B. A. C.	12.5	27.2	42.0	20 27.23	5 40.972	+ 2 59.40	+ 72.307
	Melpomene	12.0	26.2	41.7	23 26.63	1 28.790		

RESULTS.

Corr. Chron. — 1 m. 2.36 s.

	a	δ
	h. m. s.	° ′ ″
7209, B. A. C.,	20 40 57.43	—18 34 37.00

Melpomene—7209, B. A. C.,

		△a	△δ
	h. m. s.	m s.	′ ″
M. T.	6 29 56.80	+ 2 54.63	+17 41.01
	Δt	+ .48	
	Δϱ	+ .12	+ 2.06
	p	+ .14	+ 2.65

Corr. Chron. — 1 m. 00.22 s.

	a	δ
	h. m. s.	° ′ ″
7249, B. A. C.,	20 46 26.96	—18 28 46.62

Melpomene—7249, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	5 58 29.47	— 0 17.32	+17 15.83
	Δt	— .05	
	Δϱ	+ .08	+ 1.60
	p	+ .12	+ 2.72

Corr. Chron. — 0 m. 58.26 s.

	a	δ
	h. m. s.	° ′ ″
7282, B. A. C.,	20 52 32.70	—18 6 11.95

Melpomene—7282, B. A. C.,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 12 8.78	+ 2 58.15	+18 29.28
	Δt	+ .49	
	Δϱ	+ .10	+ 2.01
	p	+ .14	+ 2.63

MELPOMENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 18	7322, B. A. C.	39.1	54.0	9.0	5 48 54.03	5 39.805	+ 0 11.04	+ 29.168
	Melpomene	50.0	5.0	20.2	49 5.07	3 40.698		
	7322, B. A. C.	11.9	27.0	41.2	51 26.70	5 39.532	+ 0 11.80	+ 29.161
	Melpomene	24.0	38.5	53.0	51 38.50	3 40.432		
	7322, B. A. C.	12.2	27.2	41.7	54 27.03	5 45.219	+ 0 11.97	+ 28.970
	Melpomene	24.0	39.0	54.0	54 39.00	3 46.310		
	7322, B. A. C.	9.0		39.0	55 24.00	5 45.230	+ 0 12.16	+ 29.260
	Melpomene	21.0	36.5	51.0	55 36.16	3 46.031		
	7322, B. A. C.	35.0	50.0	5.0	57 50.00	5 45.200	+ 0 12.33	+ 29.171
	Melpomene	47.5	2.0	17.5	58 2.33	3 46.090		
	7322, B. A. C.	10.5	26.0	40.7	6 0 25.73	5 45.171	+ 0 12.67	+ 29.061
	Melpomene	23 5	38.7	53.0	0 38.40	3 46.171		
	7322, B. A. C.	47.1	2.0	17.0	3 2.03	5 45.101	+ 0 12.67	+ 29.281
	Melpomene	59.7	15.0	29.4	3 14.70	3 45.881		
	7322, B. A. C.	22.2	37.0	52.0	3 37.07	5 45.003	+ 0 12.76	+ 29.224
	Melpomene	35.0	49.5	5.0	3 49.83	3 45.840		
	7322, B. A. C.	6.3	21.7	36.2	5 21.40	5 45.122	+ 0 12.77	+ 29.396
	Melpomene	19.5	34.0	49.0	5 34.17	3 45.787		
	7322, B. A. C.	15.2	30.0	45.1	7 30.10	5 44.999	+ 0 13.30	+ 29.381
	Melpomene	29.2	43.0	58.0	7 43.40	3 45.679		
	7322, B. A. C.	25.7	40.6	55.7	10 40.67	5 44.956	+ 0 13.33	+ 29 337
	Melpomene	39.0	54.0	9.0	10 54.00	3 45.580		
	7322, B. A. C.	31.2	47.0	1.2	12 46.47	5 44.672	+ 0 13.56	+ 29.293
	Melpomene	46.0	0.0	15.0	13 0.03	3 45.440		
29	(* 39) W.	45.0	0.0	15.0	6 10 0.00	5 34.829	+ 1 3.09	+ 27.842
	Melpomene	- -	3.0		11 3.09	3 37.048		
	(* 39) W.	16.2	30.5	46.0	15 30.90	5 34.310	+ 1 4.69	+ 28.023
	Melpomene	- -	35.0	49.0	16 35.59	3 36.348		
	(* 39) W.	16.2	31.0	45.0	22 30.73	5 33.881	+ 1 4.86	+ 28.121
	Melpomene	20.0	35.5	- -	23 35.59	3 35.821		
	(* 39) W.	16.5	31.0	46.0	27 31.16	5 33.032	+ 1 4 93	+ 28.195
	Melpomene	- -	36.0	- -	28 36.09	3 34.898		
	(* 39) W.	21.0	36.0	50.9	30 35.97	5 32.660	+ 1 5.12	+ 28.289
	Melpomene	26.0	41.0	- -	31 41.09	3 34.432		
	(* 39) W.	16.2	31.2	46.0	35 31.13	5 32.132	+ 1 6.04	+ 28.293
	Melpomene	22.5	37.0	52.0	36 37.17	3 33.900		
	(* 39) W.	18.2	34.0	48.0	39 33.07	5 31.664	+ 1 7.02	+ 28.567
	Melpomene	25.0	40.0	- -	40 40.09	3 33.158		

RESULTS.

Corr. Chron. — 0 m. s. 58.01

	a	δ
	h. m. s.	° ′ ″
7322, B. A. C.,	20 57 38.53	—17 48 58.73

Melpomene—7322, B. A. C.,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 0 10.62	+ 0 12.53	+ 7 29.18
	Δt	+ .03	
	Δϱ	+ .03	+ .72
	p	+ .13	+ 2.65

Corr. Chron. — 1 m. s. 7.48

	a	δ
	h. m. s.	° ′ ″
(* 39) W.,	21 22 49.00	—16 30 1.99

Melpomene—(* 39) W.,

		Δa	Δδ
	h. m. s.	m. s.	′ ″
M. T.	6 25 50.91	+ 1 5.11	+ 7 13.27
	Δt	+ .18	
	Δϱ	— .06	+ 1.03
	p	— .15	+ 2.44

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 1	45804, Lalande	19.2	33.5	49.0	10 8 33.90	1 26.590	+ 2 39.10	− 55.457
	Irene	58.0	13.0	28.0	11 13.00	5 21.922		
	45804, Lalande	15.1	29.5	45.1	13 29.90	1 26.659	+ 2 39.27	− 55.367
	Irene	54.0	9.5	24.0	16 9.17	5 21.901		
	45804, Lalande	12.2	27.0	41.7	18 26.97	1 26.821	+ 2 39.06	− 55.314
	Irene	51.0	6.1	21.0	21 6.03	5 22.010		
	45804, Lalande	53.1	8.0	23.0	10 23 8.03	1 26.888	+ 2 39.14	− 55.466
	45838, Lalande	12.0	27.0	42.0	24 27.00	5 38.418	+ 1 20.17	+ 16.189
	Irene	32.0	47.0	2.5	25 47.17	5 22.229		
	45804, Lalande	53.5	9.1	24.0	27 8.87	1 27.082	+ 2 38.96	− 55.503
	45838, Lalande	13.0	28.0	43.2	28 28.07	5 38.716	+ 1 19.76	+ 16.256
	Irene	32.5	48.0	3.0	29 47.83	5 22.460		
	45804, Lalande	48.1	3.0	18.2	33 3.10	1 27.129	+ 2 38.43	− 55.516
	45838, Lalande	7.1	22.0	37.3	34 22.13	5 38.729	+ 1 19.40	+ 16.209
	Irene	27.1	41.5	57.0	35 41.53	5 22.520		
	45804, Lalande	13.2	28.2	43.1	38 28.16	1 27.272	+ 2 37.94	− 55.591
	45838, Lalande	32.0	47.0	2.0	39 47.00	5 39.020	+ 1 19.10	+ 16.282
	Irene	51.0	6.0	21.3	41 6.10	5 22.738		
	45804, Lalande	42.9	58.1	13.2	47 58.07	1 27.630	+ 2 37.93	− 55.754
	45838, Lalande	2.0	17.0	32.0	49 17.00	5 39.179	+ 1 19.00	+ 15.920
	Irene	21.0	36.0	51.0	50 36.00	5 23.259		
	45804, Lalande	14.0	29.2	44.2	56 29.13	1 27.750	+ 2 37.87	− 55.954
	45838, Lalande	33.0	48.0	3.0	57 48.00	5 39.422	+ 1 19.00	+ 15.843
	Irene	52.0	7.0	22.0	59 7.00	5 23.579		
	45804, Lalande	31.5	46.0	1.1	11 6 46.20	1 27.905	+ 2 36.96	− 56.080
	45838, Lalande	50.0	5.2	20.1	8 5.10	5 39.562	+ 1 18.06	+ 15.702
	Irene	8.0	23.0	38.5	9 23.16	5 23.860		
2	45838, Lalande	16.5	31.5	47.0	10 17 31.67	3 33.985	+ 0 28.33	− 7.503
	Irene	45.0	0.0	15.0	18 0.00	3 41.488		
	45838, Lalande	33.2	48.1	3.2	19 48.16	3 33.890	+ 0 28.71	− 7.560
	Irene	1.5	17.1	32.0	20 16.87	3 41.450		
	45838, Lalande	53.0	8.1	23.0	22 8.03	3 34.000	+ 0 28.27	− 7.278
	Irene	21.0	36.2	51.7	22 36.30	3 41.278		
	45838, Lalande	12.6	27.5	42.7	24 27.60	3 34.050	+ 0 28.40	− 7.570
	Irene	41.0	56.0	11.0	24 56.00	3 41.620		
5	45704, Lalande	22.0	37.1	52.0	8 55 37.03	2 41.928	+ 2 11.90	+ 28.687
	Irene	- -	49.0	4.0	57 48.93	1 30.312		
	45704, Lalande	20.2	35.2	50.2	59 35.20	3 29.171	+ 2 11.73	+ 28.366
	Irene	32.0	47.0	-	9 1 46.93	1 30.869		
	45704, Lalande	57.4	13.0	27.9	3 12.77	3 29.491	+ 2 11.73	+ 28.540
	Irene	9.0	25.0	39.5	5 24.50	1 31.015		
	45704, Lalande	53.0	8.0	23.0	7 8.00	3 29.770	+ 2 11.63	+ 28.404
	Irene	- -	19.7	- -	9 19.63	1 31.430		
	45704, Lalande	19.2	34.0	49.0	10 34.07	3 29.816	+ 2 11.10	+ 28.380
	Irene	30.0	45.0	0.5	12 45.17	1 31.500		
	45704, Lalande	28.5	44.1	59.0	16 43.87	3 30.122	+ 2 11.20	+ 28.395
	Irene	40.0	55.0	10.2	18 55.07	1 31.791		

RESULTS.

Sept. 1

Corr. Chron. − 0 m. s. 12.35

	α	δ
	h. m. s.	° ′ ″
45804, Lalande,	23 16 8.76	−18 35 48.51

Irene—45804, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 35 47.35	+ 2 38.47	−14 14.55
	Δt +	.43	
	Δϱ +	.03	− 1 02
	p −	.11	+ 3.44

	α	δ
	h. m. s.	° ′ ″
45838, Lalande,	23 17 28.44	−18 54 13.51

Irene—45838, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 44 17.48	+ 1 19.21	+ 4 6.79
	Δt +	.21	
	Δϱ −	.01	+ .29
	p −	.11	+ 3.46

2

Corr. Chron. − 0 m. s. 12.19

	α	δ
	h. m. s.	° ′ ″
45838, Lalande,	23 17 28.45	−18 54 13.55

Irene—45838, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 21 15.10	+ 0 28.43	− 1 54.93
	Δt +	.08	
	Δϱ	.00	− .15
	p −	.12	+ 3.42

5

Corr. Chron. − 0 m. s. 10.52

	α	δ
	h. m. s.	° ′ ″
45704, Lalande,	23 13 11.53	−19 20 52.85

Irene—45704, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 7 29.52	+ 2 11.55	+ 7 17.45
	Δt +	.36	
	Δϱ −	.04	+ .85
	p −	.18	+ 3.25

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 7	45704, Lalande	28.1	43.0	58.0	8 32 43.53	2 44.910	+ 0 27.97	+ 15.101	m. s. Corr. Chron. — 0 10.78
	Irene	56.0	11.0	26.0	33 11.00	3 47.018			
	45704, Lalande	30.2	45.0	1.0	35 45.40	2 45.305	+ 0 28.10	+ 15.098	α h. m. s. δ ° ′ ″
	Irene	58.0	13.5	29.0	36 13.50	3 47.410			45704, Lalande, 23 13 11.55 —19 20 52.93
	45704, Lalande	13.2	28.2	44.0	38 28.47	2 45.519	+ 0 27.60	+ 15.047	Irene—45704, Lalande,
	Irene	41.0	56.0	11.2	38 56.07	3 47.573			
	45704, Lalande	26.0	41.0	57.0	39 41.33	2 45.770	+ 0 27.57	+ 15.035	△α h. m. s. m. s. △δ ′ ″
	Irene	53.5	9.1	24.1	40 8.90	3 47.812			M. T. 8 42 16.27 + 0 27.50 + 3 53.31
	45704, Lalande	3.1	18.0	33.0	41 18.03	2 45.758	+ 0 27.47	+ 15.164	Δt + .07
	Irene	30.0	45.5	1.0	41 45.50	3 47.929			Δϱ — .03 + .59
									p — .18 + 3.20
	45704, Lalande	35.0	49.0	5.0	42 49.67	2 45.722	+ 0 27.50	+ 15.366	
	Irene	2.0	17.0	32.5	43 17.17	3 48.095			
	45704, Lalande	1.9	16.0	31.5	44 16.47	2 45.987	+ 0 27.53	+ 15.284	
	Irene	29.0	44.0	59.0	44 44.00	3 48.278			
	45704, Lalande	25.8	41.0	56.0	46 40.93	2 46.205	+ 0 27.07	+ 15.257	
	Irene		8.0	23.0	47 8.00	3 48.469			
	45704, Lalande	55.0	10.0	25.0	48 10.00	2 46.272	+ 0 27.40	+ 15.253	
	Irene	22.0	37.5	52.7	48 37.40	3 48.532			
	45704, Lalande	47.1	2.0	17.5	50 2.20	2 46.430	+ 0 26.80	+ 15.194	
	Irene	14.0		44.0	50 29.00	3 48.631			
22	Irene	42.0	57.5	13.0	7 57 57.17	4 46.738			m. s Corr. Chron. — 0 18.00
	(* 30) W.	17.0	32.5	47.7	59 32.40	1 37.648	— 1 35.23	— 52.070	
	Irene	51.4	6.0		9 1 5.85	4 46.815			α h. m. s. δ ° ′ ″
	(* 40) W.	26.0	41.0	56.0	2 41.00	1 37.592	— 1 35.15	— 52.203	(* 40) W., 23 2 — —20 16 —
	Irene	0.3	16.0	31.0	4 15.77	4 46.899			Irene—(* 40) W.,
	(* 40) W.	35.2	50.5	5.5	5 50.40	1 37.710	— 1 34.67	— 52.169	
	Irene	53.0	8.0	23.6	8 8.20	4 46.860			△α h. m. s. m. s. △δ ′ ″
	(* 40) W.	28.1	43.0	58.0	9 43.03	1 37.741	— 1 34.83	— 52.099	M. T. 9 5 49.50 — 1 35.05 +13 22.23
	Irene	58.5	14.0	29.0	11 13.83	4 47.095			Δt — .26
	(* 40) W.	34.0	49.0	4.0	12 49.00	1 37.758	— 1 35.17	— 52.317	Δϱ — .02 + 1.03
									p — .10 + 3.40
	Irene	48.7	4.0	19.0	14 3.90	4 47.132			
	(* 40) W.	24.2	39.2	54.1	15 39.16	1 37.792	— 1 35.26	— 52.320	
28	(* 41) W.	23.0	38.0	53.1	8 51 38.03	5 51.670	+ 2 28.47	+ 65.853	m. s. Corr. Chron. — 0 19.08
	Irene	51.0	7.0	21.5	54 6.50	1 45.942			
	(* 41) W.	35.0	50.5	6.5	56 50.66	5 51.700	+ 2 28.34	+ 65.815	α h. m. s. δ ° ′ ″
	Irene	4.0	19.0	34.0	59 19.00	1 46.010			(* 41) W., 22 54 0.59 —21 0 2.72
	(* 41) W.	56.4	12.0	27.2	9 11 11.87	5 51.741	+ 2 28.13	+ 65.686	Irene—(* 41) W.,
	Irene	25.0	40.0	55.0	13 40.00	1 46.180			
	(* 41) W.	20.2	35.0	50.7	16 35.30	5 51.799	+ 2 27.70	+ 65.506	△α h. m. s. m. s. △δ ′ ″
	Irene	48.0	3.0	18.0	19 3.00	1 46.418			M. T. 9 6 13.04 + 2 28.16 +16 50.02
									Δt + .41
									Δϱ — .02 + 1.36
									p — .07 + 3.43

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 29	(* 41) W.	52.1	7.0	22.0	8 39 7.03	5 45.130	+ 1 47.77	+ 59.323
	Irene	39.4	55.0	10.0	40 54.80	1 45.932		
	(* 41) W.	22.1	37.2	52.2	43 37.17	5 45.272	+ 1 47.73	+ 59.284
	Irene	9.5	25.0	40.2	45 24.90	1 46.113		
	(* 41) W.	37.6	53.2	8.3	46 53.03	5 45.299	+ 1 47.97	+ 59.164
	Irene	26.0	41.0	56.0	48 41.00	1 46.260		
	(* 41) W.	27.0	42.0	57.1	50 42.03	5 45.332	+ 1 47.11	+ 59.276
	Irene	14.2	29.2	- -	52 29.14	1 46.181		
	(* 41) W.	28.5	44.0	59.1	53 43.87	5 45.272	+ 1 47.13	+ 59.087
	Irene	16.0	31.0	46.0	55 31.00	1 46.310		
30	(* 41) W.	2.0	17.0	33.0	8 17 17.33	5 37.412	+ 1 8.34	+ 53.497
	Irene	11.0	25.0	41.0	18 25.67	1 44.040		
	(* 41) W.	41.0	56.0	11.5	20 56.17	5 37.491	+ 1 7.83	+ 53.440
	Irene	49.0	4.0	19.0	22 4.00	1 44.176		
	(* 41) W.	9.2	24.2	39.5	23 24.30	5 37.528	+ 1 8.53	+ 53.363
	Irene	17.5	33.0	48.0	24 32.83	1 44.290		
	(* 41) W.	37.0	53.0	8.1	25 52.70	5 37.530	+ 1 8.34	+ 53.454
	Irene	- -	1.2	16.0	27 1.04	1 44.201		
	(* 41) W.	58.6	14.6	29.1	28 14.10	5 37.536	+ 1 8.13	+ 53.411
	Irene	7.1	22.0	37.6	29 22.23	1 44.250		
Oct. 2	Irene	51.0	- -	21.0	9 38 6.00	1 37.453		
	(* 41) W.	1.0	- -	31.5	38 16.25	4 38.325	− 0 10.25	+ 42.108
	Irene	39.0	- -	29.0	40 14.00	1 37.541		
	(* 41) W.	9.0	- -	39.5	40 24.25	4 38.295	− 0 10.25	+ 42.226
	Irene	8.0	- -	38.0	44 23.00	1 37.222		
	(* 41) W.	18.2	- -	49.0	44 33.60	4 38.091	− 0 10.60	+ 42.111
7	44877, Lalande	56.2	12.2	27.0	10 49 11.80	4 45.995	+ 1 12.20	+ 47.383
	Irene	9.0	24.0	39.0	50 24.00	1 41.592		
	44877, Lalande	53.1	8.1	23.7	52 8.30	4 45.991	+ 1 11.10	+ 47.561
	Irene	- -	19.5	36.0	53 19.40	1 41.410		
	44877, Lalande	48.5	4.1	19.0	55 3.87	4 45.992	+ 1 12.03	+ 47.432
	Irene	0.7	16.0	31.0	56 15.90	1 41.540		
	44877, Lalande	51.0	6.3	21.7	57 6.33	4 46.052	+ 1 11.77	+ 47.480
	Irene	3.0	18.3	33.0	58 18.10	1 41.552		
	44877, Lalande	57.2	12.0	27.5	59 12.23	4 46.132	+ 1 11.77	+ 47.612
	Irene	9.0	24.0	39.0	11 0 24.00	1 41.500		
	44877, Lalande	59.7	15.0	30.5	1 15.07	4 46.890	+ 1 11.93	+ 48.370
	Irene	11.5	27.0	42.5	2 27.00	1 41.500		

RESULTS.

Sept. 29

m. s.
Corr. Chron. − 0 19.08

	α	δ
	h. m. s.	° ′ ″
(* 41) W.,	22 54 0.58	−21 0 2.82

Irene—(* 41) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 48 17.07	+ 1 47.54	+15 10.28
	Δt	+ .29	
	Δρ	− .03	+ 1.14
	p	− .09	+ 3.39

30

m. s.
Corr. Chron. − 0 19.08

	α	δ
	h. m. s.	° ′ ″
(* 41) W.,	22 54 0.57	−21 0 2.91

Irene—(* 41) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 23 58.07	+ 1 8.23	+13 41.25
	Δt	+ .19	
	Δρ	− .03	+ 1.10
	p	− .10	+ 3.34

Oct. 2

m. s.
Corr. Chron. − 0 21.00

	α	δ
	h. m. s.	° ′ ″
(* 41) W.,	22 54 0.56	−21 0 3.10

Irene—(* 41) W.,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 40 33.33	− 0 10.37	+10 47.79
	Δt	− .03	
	Δρ	.00	+ .72
	p	− .02	+ 3.43

7

m. s.
Corr. Chron. − 0 23.37

	α	δ
	h. m. s.	° ′ ″
44877, Lalande,	22 49 42.96	−21 3 42.88

Irene—44877, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 56 28.03	+ 1 11.80	+12 12.20
	Δt	+ .19	
	Δρ	+ .02	+ .88
	p	+ .07	+ 3.31

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 8	44877, Lalande	28.2	44.0	59.0	9 51 43.73	4 43.716	+ 0 42.27	+ 47.661
	Irene	11.0	26.0	41.0	52 26.00	1 39.035		
	44877, Lalande	46.5	1.8	17.2	55 1.83	4 43.710	+ 0 42.17	+ 47.551
	Irene		44.0	59.0	55 44.00	1 39.139		
	44877, Lalande	35.2	50.2	5.5	56 50.30	4 43.685	+ 0 42.40	+ 47.607
	Irene		32.7	48.0	57 32.70	1 39.058		
	44877, Lalande	44.2	59.7	15.2	59 59.70	4 43.605	+ 0 42.10	+ 47.516
	Irene	26.9	41.5	57.0	10 0 41.80	1 39.069		
	44877, Lalande	19.7	35.5	51.0	1 35.40	4 43.675	+ 0 42.60	+ 47.551
	Irene	3.0	18.0	33.0	2 18.00	1 39.104		
	44877, Lalande	45 1	0.7	16.0	3 0.60	4 43.635	+ 0 42.17	+ 47.541
	Irene	27.4	42.9	58.0	3 42.77	1 39.074		
	44877, Lalande	11.1	26.8	41.7	5 26.53	4 43.625	+ 0 42.04	+ 47.563
	Irene	53.2	8.5	24.0	6 8.57	1 39.042		
	44877, Lalande	38.2	53.5	9.1	6 53.60	4 43.599	+ 0 41.90	+ 47.531
	Irene	20.0	35.5	51.0	7 35.50	1 39.048		
	44877, Lalande	22.0	37.6	53.4	8 37.67	4 43.570	+ 0 42.13	+ 47.492
	Irene	4.6	19.7	35.1	9 19.80	1 39.058		
	44877, Lalande	54.7	10.4	25.4	10 10.17	4 43.532	+ 0 41.83	+ 47.547
	Irene	37.0	52.0	7.0	10 52.00	1 38.965		
11	Irene	59.1	14.0	29.1	9 7 14.07	1 37.210		
	44877, Lalande	40.0		11.0	7 55.50	5 29.420	− 0 41.43	+ 52.335
	Irene	27.1	42.0	57.0	12 42.03	1 37.192		
	44877, Lalande		23.0	38.5	13 23.05	5 29.520	− 0 41.02	+ 52.453
	Irene	12.2	26.7	43.0	14 27.30	1 37.272		
	44877, Lalande	53.2	8.6	24.0	15 8.60	5 29.479	− 0 41.30	+ 52.332
	Irene	52.8	8.0	23.0	16 7.93	1 37.320		
	44877, Lalande	34.2	49.6	5.1	16 49.63	5 29.542	− 0 41.70	+ 52.347
	Irene	28.1	43.0	58.1	17 43.07	1 37.237		
	44877, Lalande	9.0	24.0	39.2	18 24.07	5 29.609	− 0 41.00	+ 52.497
	Irene	58.2	13.0	28.5	19 13.23	1 37.229		
	44877, Lalande	39.1	54.6	10.0	19 54.57	5 29.525	− 0 41.34	+ 52.421
15	Irene	31.0	47.0	2.0	9 5 46.67	1 45.191		
	44877, Lalande	47.0	2.0	17.5	8 2.17	5 52.981	− 2 15.50	+ 67.915
	Irene	38.0	53.0		12 53.00	1 44.900		
	44823, Lalande	47.0			13 2.26	3 50.841	− 0 9.26	+ 36.005
	44877, Lalande	53.5	9.0	24.0	15 8.83	5 52.937	− 2 15.83	+ 68.162
	Irene	30.9	46.0		16 46.00	1 44.568		
	44823, Lalande	40.0			16 55.26	3 50.542	− 0 9.26	+ 36.038
	44877, Lalande	47.0	2.0	17.6	19 2.20	5 52.822	− 2 16.20	+ 68.379

RESULTS.

Corr. Chron. — 0 m. s. 24.10

	α h. m. s.	δ ° ′ ″
44877, Lalande,	22 49 42.95	−21 3 42.98

Irene—44877, Lalande,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	10 2 14.01	+ 0 42.16	+12 10.91
	Δt +	.11	
	Δρ +	.01	+ .81
	p +	.02	+ 3.34

Corr. Chron. — 0 m. s. 25.30

	α h. m. s.	δ ° ′ ″
44877, Lalande,	22 49 42.91	−21 3 43.31

Irene—44877, Lalande,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 14 9.30	− 0 41.30	+13 25.32
	Δt −	.11	
	Δρ	.00	+ .89
	p −	.01	+ 3.30

Corr. Chron. — 0 m. s. 29.12

	α h. m. s.	δ ° ′ ″
44877, Lalande,	22 49 42.87	−21 3 43.74
44823, Lalande,	22 47 35.84	−20 55 25.96

Irene—44877, Lalande,

	h. m. s.	Δα m. s.	Δδ ′ ″
M. T.	9 18 23.02	− 2 15.75	+17 28.31
	Δt −	.37	
	Δρ	.00	+ 1.15
	p +	.01	+ 3.24

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 2	Irene	22.2	37.0	52.0	9 21 37.07	1 44.752		
	44823, Lalande	31.0	-	2.0	21 46.50	3 50.405	— 0 9.43	+ 35.717
	44877, Lalande	38.0	53.0	8.7	23 53.23	5 52.681	— 2 16.16	+ 68.054
	Irene	56.0	-	26.2	25 11.10	1 44.379		
	44823, Lalande	4.5	-	35.5	25 20.00	3 50.470	— 0 8.90	+ 36.155
	44877, Lalande	11.2	27.0	42.0	27 26.73	5 52.680	— 2 15.63	+ 68.426
	Irene	44.1	59.0	-	30 59.00	1 44.489		
	44823, Lalande	52.4	-	23.2	31 7.80	3 50.332	— 0 8.80	+ 35 907
	44877, Lalande	59.0	14.0	29.5	33 14.17	5 52.672	— 2 15.17	+ 68.308
16	Irene	41.0	56.0	12.0	10 11 56.33	1 45.210		
	44823, Lalande	-	26.0	41.0	12 26.10	4 44.332	— 0 29.77	+ 42.102
	Irene	53.0	9.0	24.0	16 8.66	1 45.702		
	44823, Lalande	-	38.7	54.0	16 38.80	4 44.195	— 0 30.14	+ 41.473
	Irene	33.5	48.0	-	19 48.10	1 45.555		
	44823, Lalande	3.5	18.0	33.5	19 18.33	4 44.272	— 0 30.23	+ 41.697

RESULTS.

Irene—44823, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 21 0.11	— 0 9.13	+ 9 12.76
	Δt	— .03	
	Δρ	.00	+ .60
	p	+ .01	+ 3.24

		m. s.
	Corr. Chron.	— 0 29.51
	α	δ
	h. m. s.	° ′ ″
44823, Lalande,	22 47 35.84	—20 55 26.06

Irene—44823, Lalande,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 15 28.19	— 0 30.05	+10 41.79
	Δt	— .08	
	Δρ	+ .01	+ .76
	p	+ .06	+ 3.18

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 5	Comet 1852, II.	31.0	53.0	15.0	9 42 53.00	1 34.800		
	A. Z. 145, 126	- -	- -	33.0	44 11.34	4 38.805	— 1 18.34	+ 46.985
	A. Z. 153, 111	- -	- -	21.0	44 59.34	1 38.190	— 2 6.34	+ 3.390
	Comet 1852, II.	36.1	58.0	- -	47 57.83	1 33.191		
	A. Z. 145, 126	54.0	16.0	37.0	49 15.67	4 38.709	— 1 17.84	+ 48.498
	A. Z. 153, 111	- -	- -	24.0	50 2.34	1 38.250	— 2 4.51	+ 5.059
	Comet 1852, II.	25.5	47.1	9.0	52 47.20	1 31.751		
	A. Z. 145, 126	- -	5.0	27.0	54 4.83	4 38.895	— 1 17.63	+ 50.124
	A. Z. 153, 111	-	52.0	14.0	54 51.83	1 38.255	— 2 4.63	+ 6.504
	Comet 1852, II.	14.2	35.0	57.0	56 35.40	1 30.790		
	A. Z. 145, 126	31.0	53.0	14.6	57 52.87	4 38.950	— 1 17.47	+ 51.140
	A. Z. 153, 111	-	39.0	2.0	58 38.83	1 38.305	— 2 3.43	+ 7.515
	Comet 1852, II.	43.7	5.0	28.5	10 1 5.73	1 29.738		
	A. Z. 145, 126	1.2	23.0	45.0	2 23.07	4 38.981	— 1 17.34	+ 52.223
	A. Z. 153, 111	- -	9.5	32.0	3 9.21	1 38.300	— 2 3.48	+ 8.562
	Comet 1852, II.	8.0	29.0		5 28.71	1 28.660		
	A. Z. 145, 126	-	47.0	8.0	6 46.71	4 39.090	— 1 18.00	+ 53.410
	A. Z. 153, 111	- -	- -	55.0	7 33.34	1 38.420	— 2 4.63	+ 9.760
	Comet 1852, II.	24.0	45.5	8.0	12 45.83	1 26.962		
	A. Z. 145, 126	41.0	2 0	24.0	14 2.33	4 39.110	— 1 16.50	+ 55.128
	A. Z. 153, 111	- -	-	11.0	14 49.64	1 38.478	— 2 3.81	+ 11.516
	Comet 1852, II.	17.0	38.5	1.0	17 38.83	1 25 552		
	A. Z. 145, 126	-	55.0	17.0	18 54.71	4 39.140	— 1 15.88	+ 56.568
	A. Z. 153, 111	-	42.0	4.0	19 41.71	1 38.512	— 2 2.88	+ 12.960
7	Comet 1852, II.	54.0	17.0	41.0	9 17 17.33	4 40.842		
	A. Z. 55, 49	1.0	25.0	48.5	17 24.83	3 35.060	— 0 7.50	— 18.698
	Comet 1852, II.	46.0	9.0	33.0	19 9.33	4 39.795		
	A. Z. 55, 49	53.0	16.5	40.1	19 16.53	3 34.942	— 0 7.20	— 17.769
	Comet 1852, II.	17.5	41.0	4.0	23 40.83	4 38.869		
	A. Z. 55, 49	24.0	48.0	12.0	23 48.00	3 35.032	— 0 7.17	— 16.753
	Comet 1852, II.	31.5	55.0	18.0	25 54.83	4 38.135		
	A. Z. 55, 49	39.0	2.0	26.0	26 2.33	3 35.055	— 0 7.50	— 15.996
	Comet 1852, II.	1.0	24.0	.	29 23.92	4 37.132		
	A. Z. 55, 49	8.0	31.5	55.0	29 31.50	3 35.072	— 0 7.58	— 14.976
	Comet 1852, II.	46.0	9.0	33.0	33 9.33	4 36.385		
	A. Z. 55, 49	54.0	17.0	- -	33 16.80	3 35.032	— 0 7.47	— 14.269
	Comet 1852, II.	32.0	55.5	19.0	35 55.16	4 35.620		
	A. Z. 55, 49	39.0	2.0	26.0	36 2.33	3 34.985	— 0 7.17	— 13.551
	Comet 1852, II.	32.0	54.0	- -	40 53.90	4 34.159		
	A. Z. 55, 49	37.0	- -	- -	41 0.27	3 35.092	— 0 6.37	— 11.983
	Comet 1852, II.	28.1	52.0	15.0	45 51.70	4 33.010		
	A. Z. 55, 49	34.0	58.0	21.0	45 57.67	3 35.085	— 0 5.97	— 10.841
	Comet 1852, II.	46.0	9.0	- -	48 8.67	4 32.102		
	A. Z. 55, 49	51.0	15.0	38.0	48 14.67	3 35.200	— 0 6.00	— 9.818
8	A. Z. 154, 131	37.0	1.0	25.0	9 29 1.00	3 30.485	+ 0 1.16	+ 16.323
	Comet 1852, II.	38.5	2.0	26.0	29 2.16	2 27.155		
	A. Z. 154, 131	45.0	9.0	33.0	30 9.00	3 30.431	+ 0 1.40	+ 16.756
	Comet 1852, II.	46.5	10.2	34.5	30 10.40	2 26.668		

RESULTS.

Corr. Chron. — 0 m. s. 10.30

	α (h. m. s.)	δ (° ′ ″)
A. Z., 145, 126,	2 2 22.42	+48 53 51.74
A. Z., 153, 111,	2 3 9.34	+49 5 1.59

Comet—A. Z., 145, 126,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 59 28.77	— 1 17.38	+13 15.52
	Δt	— .21	
	Δϱ	+ .07	+ .26
	p	— 1.02	+ 2.45

Comet—A. Z., 153, 111,

M. T.	9 59 28.77	— 2 4.21	+ 2 5.38
	Δt	— .34	
	Δϱ	.00	+ .04
	p	— 1.02	+ 3.45

Corr. Chron. — 0 m. s. 10.76

	α (h. m. s.)	δ (° ′ ″)
A. Z., 55, 49,	2 3 43.28	+52 21 40.97

Comet—A. Z., 55, 49,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 31 45.74	— 0 6.99	— 3 42.32
	Δt	— .02	
	Δϱ	— .01	— .08
	p	— 1.14	+ 3.70

(Continued.)

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1852. Sept. 8	A. Z. 154, 131	41.0	5.0	29.7	9 33 5.23	3 30.510	+ 0 1.60	+ 17.353
	Comet 1852, II.	42.3	6.2	31.0	33 6.83	2 26.150		
	A. Z. 154, 131	31.0	55.0	19.0	34 55.00	3 30.531	+ 0 1.06	+ 17.685
	Comet 1852, II.	31.5	56.5	20.2	34 56.06	2 25.839		
	A. Z. 154, 131	30.0	54.0	18.0	36 54.00	3 30.541	+ 0 1.63	+ 18.656
	Comet 1852, II.	31.2	56.0	19.7	36 55.63	2 24.878		
	A. Z. 154, 131	3.0	26.0	51.0	39 26.67	3 30.610	+ 0 1.77	+ 19.292
	Comet 1852, II.	4.7	27.8	52.7	39 28.40	2 24.311		
	A. Z. 154, 131	1.0	25.0	49.0	41 25.00	3 30.591	+ 0 1.73	+ 19.687
	Comet 1852, II.	2.5	26.7	51.0	41 26.73	2 23.897		
	A. Z. 154, 131	19 0	43.0	7.0	43 43.00	3 30.515	+ 0 2.00	+ 20.028
	Comet 1852, II.	21.0	45.0	9.0	43 45.00	2 23.480		
	A. Z. 154, 131	25.0	49.0	13.0	45 49.00	3 30.611	+ 0 1.97	+ 20.945
	Comet 1852, II.	26.9	51.0	15.0	45 50.97	2 22.659		
	A Z. 154, 131	51.0	15.0	39.0	49 15.00	3 30.610	+ 0 2.23	+ 21.593
	Comet 1852, II.	53.2	17.0	41.5	49 17.23	2 22.010		
	A. Z. 154, 131	2.0	26.0	50.0	50 26.00	3 30.572	+ 0 2.16	+ 21.986
	Comet 1852, II.	4.0	28.0	52.5	50 28.16	2 21.579		
	A. Z. 154, 131	6.0	30.0	54.0	52 30.00	3 30.672	+ 0 2.40	+ 22.686
	Comet 1852, II.	8.5	32.2	56.5	52 32.40	2 20.979		
13	Comet 1852, II.	23.0	53.0	24.0	11 12 53.33	2 42.610		
	A. Z. 59, 20	27.0	58.0	28.2	13 57.40	2 39.589	— 1 4.07	— 3.021
	Comet 1852, II.	18.2	48.0	19.0	15 48.40	2 42.362		
	A. Z. 59, 20	23.0	52.0	23.0	16 52.67	2 39.550	— 1 4.27	— 2.812
	Comet 1852, II.	5.0	35.0	6.0	19 35.33	2 41.395		
	A. Z. 59, 20	9.0	39.0	9.0	20 39.00	2 39.669	— 1 3.67	— 1.726
	Comet 1852, II.	25 0	55.0	26.0	25 55.33	2 39.891		
	A. Z. 59, 20	29.0	58.5	29.0	26 58.83	2 39.719	— 1 3.50	— 0.172
	Comet 1852, II.	34.0	4.7	34.0	29 4.23	2 38.920		
	A. Z. 59, 20	38.0	7.0	38.0	30 7.67	2 39.800	— 1 3.44	+ 0 880
	Comet 1852, II.	43.5	14.0	45.0	32 14.17	2 38.462		
	A. Z. 59, 20	- -	18.0	48.5	33 18.21	2 39.750	— 1 4.04	+ 1.288
16	744, B. A. C.	17.0	54.0	30.0	10 27 53.70	5 51.529	+ 0 25.30	+ 34.755
	Comet 1852, II.	43.0	19.0	55.0	28 19.00	3 46.835		
	744, B. A. C.	41.0	17.0	52.5	32 16.83	5 51.505	+ 0 25.50	+ 34.338
	Comet 1852, II.	7.5	42.0	17.5	32 42.33	3 47.228		
	744, B. A. C.	34.2	9.2	46.0	34 9.80	5 51.199	+ 0 27.03	+ 33.421
	Comet 1852, II.	0.5	37.0	13.0	34 36.83	3 47.839		
	744, B. A. C.	28.2	3.5	40.0	37 3.90	5 51.138	+ 0 26.24	+ 32.509
	Comet 1852, II.	54.2	- -	-	37 30.14	3 48.690		
	744, B. A. C.	13.0	48.7	24.8	39 48.83	5 51.162	+ 0 27.40	+ 32.041
	Comet 1852, II.	41.5	16.0	51.2	40 16.23	3 49.182		
	744, B. A. C.	53.1	28.7	4.5	43 28.77	5 51.070	+ 0 27.06	+ 30.986
	Comet 1852, II.	19.5	56.0	32.0	43 55.83	3 50.145		

RESULTS.

Corr. Chron. — 0 m. s 10.51

	a	δ
	h. m. s.	° ′ ″
A. Z., 154, 131,	2 4 45.32	+53 50 9.85

Comet—A. Z., 154, 131,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 40 24.49	+ 0 1.76	+ 4 58.42
	Δt	.00	
	Δϱ	+ .01	+ .10
	p	— 1.15	+ 2.96

Corr. Chron. — 0 m. s. 11.67

	a	δ
	h. m. s.	° ′ ″
A. Z., 59, 20,	2 13 21.82	+62 0 40.67

Comet—A. Z., 59, 20,

		△a	△δ
	h. m. s.	m. s.	′ ″
M. T.	11 22 23.46	— 1 3.83	— 0 14.25
	Δt	— .17	
	Δϱ	.00	.00
	p	— 1.14	+ 2 13

Corr. Chron. — 0 m. s. 13.33

	a	δ
	h. m. s.	° ′ ″
744, B. A. C.,	2 17 0.50	+66 43 57.26

Comet—744, B. A. C.,

		△a	△δ
	h. m. s.	m s.	′ ″
M. T.	10 36 0.00	+ 0 26.42	+ 8 27.72
	Δt	+ .07	
	Δϱ	+ .06	+ 14
	p	— 1.12	+ 2 08

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 17	(* 42) W.	38.0	16.0	55.0	10 56 16.33	3 44.682	+ 1 42.67	— 5.057	Corr. Chron. — 0 13.39 (m. s.)
	Comet 1852, II.	21.0	59.0	37.0	57 59.00	3 49.739			
	(* 42) W.	1.0	38.4	17.0	59 38.80	3 44.858	+ 1 43.20	— 5.892	(* 42) W., α h. m. s. 2 18 — δ ° ′ ″ +61 6 —
	Comet 1852, II.	44.0	- -	0 0	11 1 22.00	3 50.750			
	(* 42) W.	47.0	26.0	4.0	4 25.67	3 44.668	+ 0 43.33	— 7.511	Comet—(* 42) W.,
	Comet 1852, II.	31.0	- -	47.0	5 9.00	3 52.179			
	(* 42) W.	53.0	31.0	9.0	8 31.00	3 44.410	+ 0 44.63	— 8.168	M. T. h. m. s. 11 3 13.02; Δα m. s. — 1 43.46; Δδ ′ ″ — 1 42.32
	Comet 1852, II.	37.4	15.5	54.0	9 15.63	3 52.578			
		Time of ⊥'s Transit. h. m. s.			Angle of Pos. °			Dist.	
Oct. 2	(* 43) W.	- - -			-	5 42.089	- - -	+ 54.159	Corr. Chron. — 0 21.00 (m. s.)
	Comet 1852, II.	7 29 30.0			280 34	1 48.055			
	(* 43) W.	- - -			- - -	5 42.099	- - -	+ 54.139	(* 43) W., α h. m. s. 4 32 — δ ° ′ ″ +86 6 —
	Comet 1852, II.	7 32 0.0			280 47	1 48.085			
	(* 43) W.	- - -			-	5 41.930	- - -	+ 54.533	Comet—(* 43) W.,
	Comet 1852, II.	7 35 30.0			281 30	1 47.522			
	(* 43) W.	-			- -	5 41.930	- - -	+ 55.167	M. T. h. m. s. 7 41 19.11; Δα m. s. + 0 45.02; Δδ ′ ″ +14 12.72
	Comet 1852, II.	7 41 10.0			281 28	1 46.888			
	(* 43) W.	- - - -			- -	5 41.918	- - -	+ 55.738	
	Comet 1852, II.	7 43 10.0			281 42	1 46.305			
	(* 43) W.	- - - -			- - -	5 42.159	- - -	+ 56.096	
	Comet 1852, II.	7 46 11.0			281 46	1 46.188			
	(* 43) W.	- - - -			- - -	5 41.830	- - -	+ 56.085	
	Comet 1852, II.	7 47 0.0			282 12	1 45.870			
	(* 43) W.	- - - -			- - -	5 41.975	- - -	+ 56.250	
	Comet 1852, II.	7 49 0.0			282 27	1 45.850			
	(* 43) W.	- - -			- - -	5 42.025	- - -	+ 57.161	
	Comet 1852, II.	7 51 30.0			282 38	1 44.989			
5	(* 44) W.	- - - -			- - -	3 35.850	- - -	+ 32.959	Corr. Chron. — 0 22.23 (m. s.)
	Comet 1852, II.	8 47 15.0			295 03	1 32.955			
	(* 44) W.	- -			- - -	3 35.810	- -	+ 33.039	(* 44) W., α h. m. s. 9 3 — δ ° ′ ″ +87 54 —
	Comet 1852, II.	8 49 50.0			295 29	1 32.835			
	(* 44) W.	- - - -			- - -	3 35.818	- - -	+ 33.077	Comet—(* 44) W.,
	Comet 1852, II.	8 52 10.0			296 6	1 32.805			
	(* 44) W.	- - - -			- - -	3 36.100	- - -	+ 33.124	M. T. h. m. s. 8 53 42.06; Δα m. s. + 4 42.32; Δδ ′ ″ + 8 27.63
	Comet 1852, II.	8 54 40.0			296 14	1 33.040			
	(* 44) W.	- - - -			- - -	3 36.232	- - -	+ 33.001	
	Comet 1852, II.	8 57 10.0			296 7	1 33.295			
	(* 44) W.	- - - -			- - -	3 36.400	- - -	+ 33.114	
	Comet 1852, II.	8 58 5.0			297 2	1 33.350			
	(* 44) W.	- - -			- - -	3 36.420	- - -	+ 32.884	
	Comet 1852, II.	8 59 20.0			297 14	1 33.600			
7	Comet 1852, II.	8 40 30.0			254 40	5 41.260			
	(* 45) W.	- - - -			- - -	3 39.078	- - -	— 32.243	

(Continued.)

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. Time of ⊕'s Transit.	Angle of Pos.	MIC.	COMET—STAR.	Dist.	RESULTS.
1852.		h. m. s.	° ′	revs.	m. s.	revs.	
Oct. 7	Comet 1852, II.	8 43 0.0	254 32	5 41.459			
	(* 45) W.	- - - -	- - -	3 39.120	- - -	— 32.400	Corr. Chron. m. s. — 0 23.16
	Comet 1852, II.	8 46 10.0	254 29	5 41.972			a δ
	(* 45) W.	- - - -	- - -	3 39.198	- - -	— 32.835	(* 45) W., h. m. s. 11 43 39.05 ° ′ ″ +87 2 23.76
	Comet 1852, II.	8 47 0.0	254 33	5 42.253			Comet—(* 45) W.,
	(* 45) W.	- - -	- - -	3 39.382	- - -	— 32.932	△a △δ
	Comet 1852, II.	8 49 1.0	254 13	5 42.559			h. m. s. m. s. ′ ″
	(* 45) W.	- - - -	- - -	3 39.280	- - -	— 33.340	M. T. 8 48 21.96 + 4 38.40 — 8 29.93
	Comet 1852, II.	8 52 5.0	254 12	5 42.782			
	(* 45) W.	- - - -	- - -	3 39.178		— 33.665	
	Comet 1852, II.	8 55 0.0	253 47	5 43.060			
	(* 45) W.	- - - -	- - -	3 39.165		— 33.956	
	Comet 1852, II.	8 57 15.0	253 52	5 43.275			
	(* 45) W.	- - - -	- - -	3 39.285	- - -	— 34.051	
8	(* 46) W.	- - - -	- - -	4 38.519	- - -	+ 12.465	m. s.
	Comet 1852, II.	7 41 10.0	106 16	3 38.970			Corr. Chron. — 0 24.10
	(* 46) W.	- - - -	- - -	4 36.872	- - -	+ 11.916	a δ
	Comet 1852, II.	7 43 20.0	106 35	3 37.872			(* 46) W., h. m. s. 12 18 — ° ′ ″ +86 8 —
	(* 46) W.	- - - -	- -	4 36.729	- -	+ 11.660	Comet—(* 46) W.,
	Comet 1852, II.	7 45 20.0	106 32	3 37.985			△a △δ
	(* 46) W.	- - -	- - -	4 36.735	- - -	+ 11.393	h. m. s. m. s. ′ ″
	Comet 1852, II.	7 47 0.0	107 07	3 38.258			M. T. 7 49 53.40 + 0 29.02 + 2 51.34
	(* 46) W.	- - - -	- - -	4 36.540	- - -	+ 11.126	
	Comet 1852, II.	7 49 20.0	107 10	3 38.330			
	(* 46) W.	- - -	- - -	4 36.450	- - -	+ 11.061	
	Comet 1852, II.	7 52 10.0	108 25	3 38.305			
	(* 46) W.	- - - -	- - -	4 36.085	- - -	+ 10.859	
	Comet 1852, II.	7 54 20.0	110 0	3 38.142			
	(* 46) W.	- -	- - -	4 35.920	- - -	+ 10.531	
	Comet 1852, II.	7 55 5.0	110 47	3 38.305			
	(* 46) W.	- -	- - -	4 35.405	- - -	+ 10.182	
	Comet 1852, II.	7 57 10.0	112 14	3 38.139			
	(* 46) W.	- - - -	- - -	4 35.482	- - -	+ 10.288	
	Comet 1852, II.	7 58 0.0	112 30	3 38.110			
11	(* 47) W.	- - -	- - -	5 25.942	- - -	+ 52.027	m. s.
	Comet 1852, II.	7 31 5.0	168 17	2 16.969			Corr. Chron. — 0 25.00
	(* 47) W.	- - -	- - -	5 26.005	- - -	+ 52.021	a δ
	Comet 1852, II.	7 33 0.0	168 47	2 17.038			(* 47) W., h. m. s. 12 58 39.71 ° ′ ″ +83 43 44.31
	(* 47) W.	- - - -	- - -	5 25.828	- - -	+ 51.942	Comet—(* 47) W.,
	Comet 1852, II.	7 35 12.0	169 25	2 16.940			△a △δ
	(* 47) W.	- - - -	- - -	5 25.735	- - -	+ 51.859	h. m. s. m. s. ′ ″
	Comet 1852, II.	7 36 40.0	169 37	2 16.930			M. T. 7 38 57.90 + 7 38.30 +13 18.93
	(* 47) W.	- - - -	- - -	5 25.742	- - -	+ 52.156	
	Comet 1852, II.	7 38 12.0	169 45	2 16.640			

(Continued.)

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. Time of ⊕'s Transit.	Angle of Pos.	MIC.	COMET—STAR. Δ a	Dist.	RESULTS.
1852.		h. m. s.	° ′	revs.	m. s.	revs.	
Oct. 11	(* 47) W.	- - - -	- - - -	5 25.339	- - -	+ 51.824	
	Comet 1852, II.	7 40 20.0	169 59	2 16.569			
	(* 47) W.	- - - -	- - -	5 25.330		+ 52.072	
	Comet 1852, II.	7 42 40.0	170 27	2 16.312			
	(* 47) W.	- - - -	- - -	5 25.355	- - -	+ 52.089	
	Comet 1852, II.	7 44 00.0	170 43	2 16.320			
	(* 47) W.	- - - -	-	5 24.970	- - -	+ 51.742	
	Comet 1852, II.	7 46 00.0	170 52	2 16.282			
	(* 47) W.	- - - -	- -	5 24.940	- - -	+ 52.075	
	Comet 1852, II.	7 46 40.0	171 10	2 15.919			

		A.	B.	C.	Mean.			Δ Mic.	
		s.	s.	s.	h. m. s.			revs.	
15	(* 48) W.	51.7	9.0	26.8	7 39 9.17	2 36.928	+ 2 16.83	+ 4.009	
	Comet 1852, II.	9.0	26.0	4.3	41 26.00	2 32.919			Corr. Chron. — 0 m. s. 29.05
	(* 48) W.	4.0	21.0	38.0	48 21.00	2 36.979	+ 2 19.33	+ 5.176	a δ
	Comet 1852, II.	24.0	41.0	56.0	50 40.33	2 31.803			(* 48) W., h. m. s. 13 28 32.62 ° ′ ″ +80 51 16.30
									Comet—(* 48) W.,
									△a △δ
									h. m. s. m. s. ′ ″
									M. T. 7 45 34.11 + 2 18.08 + 1 10.57
									Δt + .38
16	Comet 1852, II.	53.0	18.0	43.0	7 8 18.00	3 36.876			
	(* 49) W.	3.0	26.0	- -	10 27.00	4 37.772	— 2 9.00	+ 13.812	Corr. Chron. — 0 m. s. 29.56
	Comet 1852, II.	13.0	- -	58.0	18 35.50	3 41.259			a δ
	(* 49) W.	27.0	- -	49.0	20 38.00	4 41.492	— 2 2.50	+ 13.149	(* 49) W., h. m. s. 15 36 33.71 ° ′ ″ +80 6 10.11
	Comet 1852, II.	38.0	- -	- -	28 48.16	3 42.802			Comet—(* 49) W.,
	(* 49) W.	42.0	-	33.3	30 52.16	4 41.885	— 2 4.00	+ 11.999	△a △δ
									h. m. s. m. s. ′ ″
									M. T. 7 18 4.33 — 2 5.17 + 3 19.60
									Δt — .34
20	Comet 1852, II.	14.0	19.0	26.0	7 4 19.67	1 37.590			
	(* 51) W.	58.0	- -	34.0	5 46.00	5 41.449	— 1 26.33	+ 63.984	Corr. Chron. — 0 m. s. 31.92
	Comet 1852, II.	47.0	43.0	-	10 44.17	1 36.468			a δ
	(* 51) W.	12.0	9.0	8.0	12 9.67	5 39.990	— 1 25.50	+ 63.647	(* 51) W., h. m. s. 13 47 — ° ′ ″ +77 55 —
									Comet—(* 51) W.,
									△a △δ
									h. m. s. m. s ′ ″
									M. T. 7 7 0.00 — 1 25.92 +16 20.81
									Δt — .23

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 21	Comet 1852, II.	0.0	3.0	8.0	7 32 3.67	2 38.320			Corr. Chron. — 0 32.46 (m. s.)
	(* 52) W.	52.5	48.0	42.0	28 47.50	3 34.450	— 6 43.83	+ 9.123	α δ
	Comet 1852, II.	6.0	8.0	12.0	33 8.67	2 38.865			(* 52) W., 13 54 (h. m. s.) — +77° 02′ 11″ —
	(* 52) W.	56.2	50.5	45.0	39 50.57	3 34.040	— 6 41.90	+ 8.168	Comet—(* 52) W.,
									Δα Δδ
									M. T. 7 27 3.71 (h. m. s.) — 6 42.86 (m. s.) + 2′ 12.87
									Δt — 1.11
23	(* 53) W.	48.0	29.0	11.0	6 57 29.33	4 30.732	+ 1 49.67	+ 0.754	Corr. Chron. — 0 33.70 (m. s.)
	Comet 1852, II.	29.0	18.0	10.0	59 19.00	4 29.978			α δ
	(* 53) W.	14.0	56.0	38.0	7 2 56.00	4 30.501	+ 1 50.00	+ 0.211	(* 53) W., 13 48 (h. m. s.) — +75° 57′ 11″ —
	Comet 1852, II.	56.0	46.0	36.0	4 46.00	4 30.290			Comet—(* 53) W.,
									Δα Δδ
									M. T. 7 1 28.80 (h. m. s.) + 1 49.84 (m. s.) + 0′ 7.41
									Δt + .30
24	Comet 1852, II.	19.6	6.0	56.0	7 36 7.20	2 37.132			Corr. Chron. — 0 34.60 (m. s.)
	(* 54) W.	- -	54.0	42.0	38 54.20	1 39.801	— 2 47.00	— 14.402	α δ
	Comet 1852, II.	34.2	- -	26.0	44 30.10	2 37.742			(* 54) W., 13 55 (h. m. s.) — +75° 28′ 11″ —
	(* 54) W.	28.0	- -	6.0	47 17.00	1 40.349	— 2 46.90	— 14.464	Comet—(* 54) W.,
									Δα Δδ
									M. T. 7 39 44.05 (h. m. s.) — 2 46.95 (m. s.) — 3′ 41.82
									Δt — .46
25	(* 55) W.	29.2	16.0	- -	7 10 15.70	3 27.151	+ 3 36.80	— 5.359	Corr. Chron. — 0 35.30 (m. s.)
	Comet 1852, II.	6.0	- -	39.0	13 52.50	3 32.510			α δ
	(* 55) W.	36.0	22.5	8.5	16 22.33	3 27.051	+ 3 36.54	— 6.128	(* 55) W., 13 49 (h. m. s.) — +74° 56′ 11″ —
	Comet 1852, II.	12.5	-	45.3	19 58.87	3 33.180			Comet—(* 55) W.,
									Δα Δδ
									M. T. 7 16 20.38 (h. m. s.) + 3 36.67 (m. s.) — 1′ 28.27
									Δt + .59
Dec. 1	Comet 1852, II.	33.0	9.0	45.0	8 1 9.00	3 28.390			Corr. Chron. — 0 49.31 (m. s.)
	(* 56) W.	16.0	51.0	26.0	1 50.23	3 31.942	— 0 41.23	+ 3.552	α δ
	Comet 1852, II.	54.2	28.0	6.0	12 29.40	3 28.368			(* 56) W., 14 1 (h. m. s.) — +66° 19′ 11″ —
	(* 56) W.	36.0	13.0	- -	13 13.00	3 22.042	— 0 43.60	— 6.326	Comet—(* 56) W.,
									Δα Δδ
									M. T. 8 5 59.89 (h. m. s.) — 0 42 42 (m. s.) — 0′ 21.32
									Δt — .11

COMET 1852, II.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 8	(* 57) W.	6.0	42.0	- -	8 53 42.00	4 36.159	+ 1 0.00	— 17.396	
	Comet 1852, II.	7.0	42.0	- -	54 42.00	5 36.410			Corr. Chron. — 0 m. s. 57.34
	(* 57) W.	6.5	43.0	- -	58 43.00	4 36.178	+ 0 59.67	— 17.542	α h. m. s. δ ° ′ ″
	Comet 1852, II.	8.4	43.0	17.0	59 42.67	5 36.575			(* 57) W., 13 53 — +66 22 —
	(* 57) W.	57.0	32.0	- -	9 4 32.00	4 37.525	+ 1 0.00	— 17.598	Comet—(* 57) W.,
	Comet 1852, II.	56.5	31.0	-	5 32.00	5 37.978			Δα Δδ
									h. m. s. m. s. ′ ″
									M. T. 8 59 1.59 + 0 59.89 — 4 29.15
									Δt + .16
13	(* 58) W.	18.5	54.0	30.0	7 20 54.16	3 36.575	+ 0 17.84	— 10.141	
	Comet 1852, II.	- -	12.0	- -	21 12.00	4 33.800			m. s.
									Corr. Chron. — 1 0.40
	(* 58) W.	36.0	12.0	48.0	27 12.00	3 36.228	+ 0 16.50	— 9.823	α h. m. s. δ ° ′ ″
	Comet 1852, II.	- -	28.5	- -	27 28.50	4 33.135			(* 58) W., 13 47 — +66 44 —
									Comet—(* 58) W.,
									Δα Δα
									h. m. s. m. s. ′ ″
									M. T. 7 23 19.85 + 0 17.17 — 2 33.42
									Δt + .05

NOTE. — After Sept. 17th, the positions of the Comparison Stars are uncertain.

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 13	Weisse XXII, 13	47.1	2.0	17.0	9 55 2.03	5 26.491	+ 2 16.06	— 7.078
	Fortuna	- -	18.0	33.0	57 18.09	5 33.569		
	Weisse XXII, 13	4.5	19.0	34.0	10 1 19.16	5 26.492	+ 2 15.24	— 7.128
	Fortuna	20.0	34.2	49.0	3 34.40	5 33 620		
	Weisse XXII, 13	20.0	35.5	49.6	4 35.03	5 26.555	+ 2 15.47	— 7.255
	Fortuna	36.0	50.5	5.0	6 50.50	5 33.810		
	Weisse XXII, 13	37.1	51.6	- -	7 51.69	5 26.455	+ 2 15.88	— 7.380
	Fortuna	53.2	7.5	22.0	10 7.57	5 33.835		
	Weisse XXII, 13	5.0	19.5	34.0	12 19.50	5 29.042	+ 2 15.00	— 7.258
	Fortuna	20.0	34.5	49.0	14 34.50	5 36.300		
	Weisse XXII, 13	41.0	55.0	10.0	15 55.33	5 29.014	+ 2 15.07	— 7.375
	Fortuna	54.0	10.2	25.0	18 10.40	5 36.389		
16	Weisse XXII, 13	20.0	34.0	49.0	9 8 34.33	1 39.461	+ 0 17.80	— 62.114
	Fortuna	- -	52.0	7.0	8 52.13	5 41.450		
	Weisse XXII, 13	47.1	1.0	16.0	11 1.37	1 39.439	+ 0 17.79	— 62.061
	Fortuna	5.0	19.0	33.5	11 19.16	5 41.375		
	Weisse XXII, 13	48.1	2.0	17.2	14 2.43	1 39.359	+ 0 17.90	— 62.107
	Fortuna	6.0	20.0	35.0	14 20.33	5 41.341		
	Weisse XXII, 13	46.2	1.0	15.5	16 0.90	1 39.559	+ 0 17.77	— 62.098
	Fortuna	4.0	19.0	33.0	16 18.67	5 41.532		
	Weisse XXII, 13	28.2	42.0	57.2	18 42.47	1 39.639	+ 0 17.86	— 62.166
	Fortuna	46.0	0.0	15.0	19 0.33	5 41.680		
	Weisse XXII, 13	33.0	47.0	2.0	20 47.33	1 39.471	+ 0 17.87	— 62.173
	Fortuna	51.0	5.0	19.6	21 5.20	5 41.519		
	Weisse XXII, 13	40.7	54.2	9.3	22 54.73	1 39.465	+ 0 17.40	— 62.220
	Fortuna	- -	12.0	27.0	23 12.13	5 41.560		
	Weisse XXII, 13	40.7	55.0	9.0	25 54.90	1 39.370	+ 0 17.77	— 62.350
	Fortuna	58.0	13.0	27.0	26 12.67	5 41.595		
	Weisse XXII, 13	39.2	53.1	8.0	27 53.43	1 39.561	+ 0 17.90	— 62.262
	Fortuna	57.0	11.0	26.0	28 11.33	5 41.698		
	Weisse XXII, 13	59.6	14.0	28.5	30 14.03	1 39.521	+ 0 17.70	— 62.317
	Fortuna	17.0	32.0	46.0	30 31.73	5 41.713		
	Weisse XXI, 1375	50.2	4.0	19.0	35 4.40	4 33.321	+ 2 31 27	+ 25.639
	Fortuna	21.0	36.0	50.0	37 35.67	2 33.051		
	Weisse XXI, 1375	36.0	50.7	5.0	38 50.57	4 33.269	+ 2 31.13	+ 25.729
	Fortuna	7.1	22.0	36.0	41 21.70	2 33.089		
	Weisse XXI, 1375	26.1	40.0	54.5	42 40.20	4 33.339	+ 2 31.13	+ 25.695
	Fortuna	57.0	11.0	26.0	45 11.33	2 33.125		
	Weisse XXI, 1375	26.0	40.6	55.0	46 40.53	4 33.315	+ 2 30.97	+ 25.733
	Fortuna	57.0	11.5	26.0	49 11.50	2 33.139		
	Weisse XXII, 13	24.0	38.0	53.0	56 38.33	1 34.461	+ 0 16.50	— 62.783
	Fortuna	40.0	55.0	9.5	56 54.83	5 37.119		
17	Weisse XXI, 1375	57.2	12.0	26.2	8 41 11.80	2 36.813	+ 1 55.87	+ 9.283
	Fortuna	53.0	8.0	22.0	43 7.67	2 27.530		
	Weisse XXI, 1375	27.5	41.6	55.5	54 41.53	3 23.960	+ 1 56.00	+ 9.080
	Fortuna	23.0	37.0	51.6	56 37.53	3 14.880		

RESULTS.

Sept. 13

Corr. Chron. — 0 m. 11.67 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 13,	22 1 42.75	— 9 31 13.40

Fortuna—Weisse XXII, 13,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	10 8 14.24	+ 2 15.45	— 1 51.37
	Δt	+ .37	
	Δϱ	.00	— .07
	p	— .04	+ 5.29

16

Corr. Chron. — 0 m. 13.42 s.

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 13,	22 1 42.73	— 9 31 13.43
Weisse XXI, 1375,	21 59 29.14	— 9 53 54.07

Fortuna—Weisse XXII, 13,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 23 2.81	+ 0 17.66	—15 56.62
	Δt	+ .05	
	Δϱ	+ .01	— .63
	p	— .09	+ 5.22

Fortuna—Weisse XXI, 1375,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	9 43 6.63	+ 2 31.12	+ 6 34.98
	Δt	+ .41	
	Δϱ	.00	+ .26
	p	— .05	+ 5.26

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 17	Weisse XXI, 1375	7.1	21.2	35.5	8 58 21.27	2 36.949	+ 1 55.40	+ 8.984
	Fortuna	2.0	17.0	31.0	9 0 16.67	2 27.965		
	Weisse XXI, 1375	55.2	9.5	- -	2 9.43	3 24.008	+ 1 55.50	+ 9.080
	Fortuna	50.0	5.0		4 4.93	3 14.928		
	Weisse XXI, 1375	7.0	21.0	- -	6 20.97	2 36.880	+ 1 55.36	+ 8.929
	Fortuna	2.0	16.0	31.0	8 16.33	2 27.951		
	Weisse XXI, 1375	44.0	59.0	13.5	9 58.83	2 36.931	+ 1 54.70	+ 8.989
	Fortuna	39.1	53.5	8.0	11 53.53	2 27.942		
	Weisse XXI, 1375	35 0	49.0	4.0	12 49.33	2 36.854	+ 1 55.20	+ 8.813
	Fortuna	29.6	45.0	59.0	14 44.53	2 28.041		
	Weisse XXI, 1375	15.2	29.7	44.2	16 29.70	2 36.850	+ 1 54.97	+ 8.872
	Fortuna	10.0	25.0	39.0	18 24.67	2 27.978		
	Weisse XXI, 1375	58.1	12.2	27.2	20 12.50	2 36.695	+ 1 54.80	+ 8.657
	Fortuna	52.9	7.5	21.5	22 7.30	2 28.038		
	Weisse XXI, 1375	36.2	50.7	5.2	23 50.70	2 36.851	+ 1 54.50	+ 8.670
	Fortuna	31.0	45.0	59.7	25 45.20	2 28.181		
18	Weisse XXI, 1375	4.2	19.0	33.0	9 10 18.73	2 38.778	+ 1 19.94	— 8.193
	Fortuna	24.0	39.0	53.0	11 38.67	3 33.978		
	Weisse XXI, 1375	21.2	35 0	50.2	12 35.47	2 38.695	+ 1 19.73	— 8.337
	Fortuna	41.0	55.4	9.2	13 55.20	3 34.039		
	Weisse XXI, 1375	29.1	44.1	58.0	14 43.73	2 38.739	+ 1 20.00	— 8.285
	Fortuna	49.0	4.0	18.2	16 3.73	3 34.031		
	Weisse XXI, 1375	35.7	49.6	4.6	16 49.97	2 38.698	+ 1 19.60	— 8.386
	Fortuna	55.0	9.7	24.0	18 9.57	3 34.091		
	Weisse XXI, 1375	38.1	52.0	7.0	19 52.37	2 38.702	+ 1 19.36	— 8 401
	Fortuna	57.2	12.0	26.0	21 11.73	3 34.110		
	Weisse XXI, 1375	40.2	54.6	9.2	21 54.67	2 38.720	+ 1 19.56	— 8.413
	Fortuna	59.7	14.0	29.0	23 14.23	3 34.140		
	Weisse XXI, 1375	43.0	57.1	12.0	23 57.37	2 38.711	+ 1 19.29	— 8.484
	Fortuna	2.0	17.0	31.0	25 16.66	3 34.202		
	Weisse XXI, 1375	47.0	2.0	14.0	26 1.00	2 38.711	+ 1 19.33	— 8.387
	Fortuna	7.0	21.0	33.0	27 20.33	3 34.105		
22	Fortuna	31.0	45.0	59.0	8 5 45.00	5 38.949		
	Weisse XXI, 1375	14.0	28.0	43.0	6 28.33	1 28.518	— 0 43.33	— 70.556
	Fortuna	29.3	43.2	58.0	9 43.50	5 38.930		
	Weisse XXI, 1375	13.0	27.0	41.6	10 27.20	1 28.483	— 0 43.70	— 70.572
	Fortuna	57.0	11.2	25.7	13 11.30	5 38.932		
	Weisse XXI, 1375	40.0	54.0	9.0	13 54.33	1 28.542	— 0 43.03	— 70.515
	Fortuna	29.0	43.6	58.5	15 43.70	5 38.988		
	Weisse XXI, 1375	- -	27.1	41.0	16 27.22	1 28.541	— 0 43.52	— 70.572
	Fortuna	38.0	53.0	7.0	19 52.67	5 39.160		
	Weisse XXI, 1375	22.0	35.5	50.5	20 36.00	1 28.532	— 0 43.33	— 70.753
	Fortuna	37.5	52.0	6.0	22 51.83	5 39.170		
	Weisse XXI, 1375	21.0	35.0	50.0	23 35.33	1 28.372	— 0 43.50	— 70.923
	Fortuna	8.0	22.5	37.1	25 22.53	5 39.139		
	Weisse XXI, 1375	- -	6.0	21.0	26 6.12	1 28.403	— 0 43.59	— 70.861

RESULTS.

Sept. 17: Corr. Chron. — 0 m. s. 13.42

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1375,	21 59 29.14	— 9 53 54.09

Fortuna—Weisse XXI, 1375,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 8 18.42	+ 1 55.23	+ 2 17.34
	Δt	+ .31	
	Δρ	.00	— .09
	p	— .10	+ 5.23

18: Corr. Chron. — 0 m. s. 13.65

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1375,	21 59 29.14	— 9 53 54.11

Fortuna—Weisse XXI, 1375,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 19 22.61	+ 1 19.60	— 2 8.50
	Δt	+ .22	
	Δρ	.00	— .08
	p	— .08	+ 5.22

22: Corr. Chron. — 0 m. s. 18.00

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1375,	21 59 29.13	— 9 53 54.17

Fortuna—Weisse XXI, 1375,

		Δα (m. s.)	Δδ (′ ″)
M. T.	8 20 23.37	— 0 43.65	—18 6.71
	Δt	— .12	
	Δρ	+ .01	— .86
	p	— .14	+ 5.10

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h m. s.	revs.	m. s.	revs.
Sept. 22	Fortuna - - -	38.1	53.0	7.5	8 28 52.87	5 39.149		
	Weisse XXI, 1375 -	22.0	37.0	50.9	29 36.63	1 28.560	— 0 43.76	— 70.714
	Fortuna - - -	13.0	28.0	42.1	31 27.70	5 39.180		
	Weisse XXI, 1375 -	57.5	12.0	26.5	32 12.00	1 28.509	— 0 44.30	— 70.796
	Fortuna - - -	48.1	2.7	17.0	34 2.60	5 39.187		
	Weisse XXI, 1375 -	32.6	46.5	1.9	34 47.00	1 28.520	— 0 44.40	— 70.792
26	Fortuna - - -	17.0	31.5	46.0	7 50 31.50	1 38.362		
	Weisse XXI, 1333 -	52.0	7.0	22.0	51 7.00	4 37.529	— 0 35.50	+ 42.147
	Fortuna - - -	58.0	12.0	27.0	54 12.33	1 38.400		
	Weisse XXI, 1333 -	33.0	48.0	3.0	54 48.00	4 37.429	— 0 35.67	+ 42.009
	Fortuna - - -	50.0		19.0	57 4.50	1 38.538		
	Weisse XXI, 1333	26.0	40.2	55.0	57 40.40	4 37.479	— 0 35.90	+ 41.921
	Fortuna - - -	16.0	30.5	45.1	58 30.53	1 38.421		
	Weisse XXI, 1333 -	52.1	6.0	21.2	59 6.40	4 37.478	— 0 35.87	+ 42.037
	Fortuna - - -	49.3	4.0	19.0	8 2 4.10	1 38.538		
	Weisse XXI, 1333 -	25.0	39.7	54.0	2 39.57	4 37.519	— 0 35.47	+ 41.961
	Fortuna - - -	16.0	30.7	44.1	3 30.26	1 38.542		
	Weisse XXI, 1333 -	51.8	6.5	21 0	4 6.40	4 37.520	— 0 36.14	+ 41.958
	Fortuna - - -	8.0	22.0	37.0	6 22.33	1 38.570		
	Weisse XXI, 1333 -	44.0	58.0	13.0	6 58.33	4 37.470	— 0 36.00	+ 41.880
	Fortuna - - -	12.0	25.1	39.7	8 25.60	1 38.591		
	Weisse XXI, 1333 -	46.5	1.0	16.0	9 1.17	4 37.460	— 0 35.57	+ 41.849
	Fortuna - - -	49.0	3.0	17.5	12 3.17	1 38.720		
	Weisse XXI, 1333 -	24.0	39.0	53.0	12 38.67	4 37.520	— 0 35.50	+ 41.780
	Fortuna - - -	9.0	24.0	39.0	15 24.00	1 38.629		
	Weisse XXI, 1333	46.0	0.0	15.0	16 0.33	4 37.460	— 0 36.33	+ 41.811
	Fortuna - - -	31.4	46.0	0.0	16 45.80	1 38.661		
	Weisse XXI, 1333 -	7.2	22.0	37.0	17 22.07	4 37.550	— 0 36.27	+ 41.869
	Fortuna - - -	15.3	29.7	44.0	18 29.67	1 38.750		
	Weisse XXI, 1333 -	51.0	6.0	20.4	19 5.80	4 37.530	— 0 36.13	+ 41.760
	Fortuna - - -	42.0	56.1		19 55.94	1 38.696		
	Weisse XXI, 1333 -	18.0	33.0	47.0	20 32.67	4 37.505	— 0 36.73	+ 41.789
	Fortuna - - -	58.1	12.7	27.1	25 12.60	1 38.742		
	Weisse XXI, 1333 -	34.2	49.0	3.2	25 48.60	4 37.422	— 0 36.00	+ 41.660
	Fortuna - - -	36.5	51.0	5.0	26 50.83	1 38.709		
	Weisse XXI, 1333 -	12.7	27.0	41.6	27 27.10	4 37.450	— 0 36.27	+ 41.721
	Fortuna - - -	14.0	28.0	43.0	30 28.33	1 38.770		
	Weisse XXI, 1333 -	50.0	5.1	19.0	31 4.70	4 37.520	— 0 36.37	+ 41.730
	Fortuna - - -	15.7	29.5	43.5	32 29.57	1 38.885		
	Weisse XXI, 1333 -	51.7	6.0	20.7	33 6.13	4 37.528	— 0 36.56	+ 41.623
	Fortuna - - -	57.5	12.0	26.0	35 11.83	1 38.922		
	Weisse XXI, 1333 -	34.0	48.0	3.0	35 48.33	4 37.549	— 0 36.50	+ 41.607
	Fortuna - - -	17.0	31.2	45.8	39 31.33	1 38.949		
	Weisse XXI, 1333 -	53.0	8.0	22.5	40 7.83	4 37.620	— 0 36.50	+ 41.651
	Fortuna - - -	41.1	56.0	9.5	40 55.53	1 39.019		
	Weisse XXI, 1333	17.9	32.2	47.0	41 32.37	4 37.610	— 0 36.84	+ 41.571

RESULTS.

Corr. Chron. — 0 m. s. 20.88

	α	δ
Weisse XXI, 1333,	h. m. s. 21 57 44.20	° ′ ″ −10 36 34.66

Fortuna—Weisse XXI, 1333,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 19 26.14	— 0 36.19	+10 42.07
	Δt	— .10	
	Δρ	— .01	+ .45
	p	— .11	+. 5.06

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 26	Fortuna	38.7	52.9	7.5	8 43 53.03	1 39.040		
	Weisse XXI, 1333	15.0	29.2	44.0	44 29.40	4 37.608	— 0 36.87	+ 41.548
	Fortuna	14.1	28.2	43.0	46 28.43	1 39.032		
	Weisse XXI, 1333	50.6	5.0	19.5	47 5.03	4 37.570	— 0 36.60	+ 41.518
	Fortuna	26.0	40.0	54.7	50 40.23	1 39.150		
	Weisse XXI, 1333	2.5	17.0	31.7	51 17.07	4 37.585	— 0 36.84	+ 41.415
27	Fortuna	53.0	7.0	21.7	8 25 7.23	2 41.451		
	Weisse XXI, 1333	49.0	3.0	17.5	26 3.17	4 45.241	— 0 55 94	+ 29.699
	Fortuna	49.1	4.0	18.5	27 3.87	2 41.440		
	Weisse XXI, 1333	45.0	59.5	14.7	27 59.73	4 45.249	— 0 55.86	+ 29.718
	Fortuna	43.0	56.5	11.2	28 56.57	2 41.392		
	Weisse XXI, 1333	38.0	52.7	7.0	29 52.57	4 45.219	— 0 56.00	+ 29.736
	Fortuna	27.1	41.0	55.7	30 41.27	2 41.410		
	Weisse XXI, 1333	23.0	37.0	52.0	31 37.33	4 45.281	— 0 56.06	+ 29.780
	Fortuna	19.2	33.5	48.0	32 33.57	2 41.449		
	Weisse XXI, 1333	15.3	29.7	44.5	33 29.83	4 45.282	— 0 56.26	+ 29.742
	Fortuna	2.0	16.2	31.0	34 16.40	2 41.435		
	Weisse XXI, 1333	58.0	12.0	27.0	35 12.33	4 45.247	— 0 55.93	+ 29.721
	Fortuna	9.0	23.7	38.0	37 23.57	2 41.528		
	Weisse XXI, 1333	5.0	19.5	34.2	38 19.57	4 45.250	— 0 56.00	+ 29.631
	Fortuna	44.1	58.1	12.5	39 58.23	2 41.488		
	Weisse XXI, 1333	39.7	54.2	9.2	40 54.37	4 45.229	— 0 56.14	+ 29.650
	Fortuna	49.1	4.0	18.5	42 3.87	2 41.505		
	Weisse XXI, 1333	46.0	0.4	15.0	43 0.47	4 45.170	— 0 56.60	+ 29.574
	Fortuna	51.0	5.0	19.0	44 5.00	2 41.439		
	Weisse XXI, 1333	47.0	1.5	16.0	45 1.50	4 45.201	— 0 56.50	+ 29.671
28	Fortuna	59.0	13.0	28.1	7 42 13.37	1 38.403		
	Weisse XXI, 1333	11.8	27.0	41.2	43 26.67	2 40.081	— 1 13.30	+ 18.749
	Fortuna	13.2	28.0	42.0	45 27.73	1 38.405		
	Weisse XXI, 1333	27.0	41.5	56.1	46 41.53	2 40.020	— 1 13.80	+ 18.686
	Fortuna	38.1	52.0	7.0	47 52.37	1 38.421		
	Weisse XXI, 1333	51.0	6.0	20.0	49 5.67	2 40.021	— 1 13.30	+ 18.671
	Fortuna	57.1	11.9	26.0	50 11.67	1 38.422		
	Weisse XXI, 1333	11.0	25.0	39.7	51 25.23	2 39.988	— 1 13.56	+ 18.637
	Fortuna	38.1	52.0	7.1	52 52.40	1 38.459		
	Weisse XXI, 1333	51.8	6.0	20.6	54 6.13	2 40.020	— 1 13.73	+ 18.632
	Fortuna	6.2	20.2	35.0	56 20.47	1 38.472		
	Weisse XXI, 1333	19.2	34.0	49.1	57 34.10	2 39.980	— 1 13.63	+ 18.579
	Fortuua	29.1	43.6	58.1	58 43.60	1 38.442		
	Weisse XXI, 1333	42.6	57.1	11.7	59 57.13	2 40.000	— 1 13.53	+ 18.629
	Fortuna	49.1	3.5	17.8	8 1 3.47	1 38.501		
	Weisse XXI, 1333	2.0	17.0	31.5	2 16.83	2 40.039	— 1 13.36	+ 18.609
	Fortuna	18.1	32.0	47.0	3 32.37	1 38.520		
	Weisse XXI, 1333	31.0	45.5	0.0	4 45.50	2 40.029	— 1 13.13	+ 18.580
	Fortuna	37.2	52.0	6.2	6 51.80	1 38.522		
	Weisse XXI, 1333	51.2	5.7	20.0	8 5.63	2 39.978	— 1 13 83	+ 18.527

RESULTS.

Corr. Chron. — 0 m. s. 15.18

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1333,	21 57 44.19	—10 36 34.70

Fortuna—Weisse XXI, 1333,

		Δα (m. s.)	Δδ (′ ″)
M. T.	8 33 57.78	— 0 56.13	+ 7 36.35
	Δt	— .15	
	Δϱ	.00	+ .31
	p	— .08	+ 5.07

Corr. Chron. — 0 m. s. 15.04

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1333,	21 57 44.18	—10 36 34.74

Fortuna—Weisse XXI, 1333,

		Δα (m. s.)	Δδ (′ ″)
M. T.	7 54 15.88	— 1 13.52	+ 4 46.33
	Δt	— .19	
	Δϱ	.00	+ .21
	p	— .14	+ 5.01

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 29	Fortuna	2.0	16.0	31.0	7 41 16.33	2 29.483		
	Weisse XXI, 1333	31.5	46.0	1.0	42 46.17	2 37.555	— 1 29.84	+ 8.072
	Fortuna	45.4	59.5	- -	43 59.70	2 29.626		
	Weisse XXI, 1333	13.9	29.0	44.2	45 29.03	2 37.578	— 1 29.33	+ 7.952
	Fortuna	4.1	18.0	32.6	46 18.23	2 29.660		
	Weisse XXI, 1333	33.0	47.5	2.0	47 47.50	2 37.505	— 1 29.27	+ 7.845
	Fortuna	6.1	21.0	34.9	8 1 20.67	2 29.659		
	Weisse XXI, 1333	36.0	50.7	5.1	2 50.60	2 37.540	— 1 29.93	+ 7.881
	Fortuna	53.1	7.0	22.1	4 7.40	2 29.720		
	Weisse XXI, 1333	23.1	37.5	52.0	5 37.53	2 37.548	— 1 30.13	+ 7.828
	Fortuna	38.6	53.0	7.7	6 53.10	2 29.745		
	Weisse XXI, 1333	8.5	23.0	37.0	8 22.83	2 37.534	— 1 29.73	+ 7.789
	Fortuna	17.0	31.0	45.6	9 31.20	2 29.710		
	Weisse XXI, 1333	46.5	1.2	15.2	11 0.97	2 37.545	— 1 29.77	+ 7.835
	Fortuna	17.5	31.7	46.0	12 31.73	2 29.701		
	Weisse XXI, 1333	46.5	1.5	16.2	14 1.40	2 37.512	— 1 29.67	+ 7.811
	Fortuna	48.1	2.0	- -	15 2.12	2 29.698		
	Weisse XXI, 1333	18.0	32.0	47.1	16 32.37	2 37.583	— 1 30.25	+ 7.885
	Fortuna	21.0	35.5	50.0	18 35.50	2 29.715		
	Weisse XXI, 1333	51.0	5.0	20.0	20 5.33	2 37.539	— 1 29.83	+ 7.824
30	Fortuna	54.2	9.0	23.2	7 31 8.80	2 36.905		
	Weisse XXI, 1333	38.0	52.0	7.0	32 52.33	2 34.870	— 1 43.53	— 2.035
	Fortuna	1.5	16.0	30.0	35 15.83	2 36.941		
	Weisse XXI, 1333	45.2	59.5	14.0	36 59.57	2 34.810	— 1 43.74	— 2.131
	Fortuna	37.0	51.0	5.7	37 51.23	2 36.940		
	Weisse XXI, 1333	20.5	35.0	49.5	39 35.00	2 34.902	— 1 43.77	— 2.038
	Fortuna	9.7	24.0	39.0	40 24.23	2 37.095		
	Weisse XXI, 1333	53.1	8.0	22.5	42 7.86	2 34.935	— 1 43.63	— 2.160
	Fortuna	24.6	39.0	53.6	43 39.56	2 37.049		
	Weisse XXI, 1333	8.5	23.0	37.5	45 23.00	2 34.950	— 1 43.44	— 2.099
	Fortuna	53.6	8.0	23.0	46 8.20	2 37.089		
	Weisse XXI, 1333	37.6	52.0	6.5	47 52.03	2 34.805	— 1 43.83	— 2.284
	Fortuna	35.0	49.0	4.0	48 49.33	2 37.112		
	Weisse XXI, 1333	19.0	33.0	47.5	50 33.16	2 34.815	— 1 43.83	— 2.297
	Fortuna	14.0	28.0	43.0	53 28.33	2 37.109		
	Weisse XXI, 1333	58.2	12.5	27.0	55 12.57	2 34.931	— 1 44.24	— 2.178
	Fortuna	0.9	15.0	29.6	56 15.17	2 37.284		
	Weisse XXI, 1333	44.6	59.0	13.5	57 59.03	2 34.929	— 1 43.86	— 2.355
	Fortuna	30.4	45.0	59.7	58 45.03	2 37.140		
	Weisse XXI, 1333	14.2	29.0	43.0	8 0 28.73	2 34.949	— 1 43.70	— 2.191
Oct. 1	Fortuna	53.0	8.0	22.0	9 1 7.67	2 45.731		
	Weisse XXI, 1333	49.6	4.5	19.1	3 4.40	2 33.670	— 1 56.73	— 12.061
	Fortuna	50.2	4.1	19.3	4 4.53	2 45.530		
	Weisse XXI, 1333	- -	1.5	16.0	6 1.61	2 33.648	— 1 57.08	— 11.882

RESULTS.

Corr. Chron. — 0 m. s. 19.08

	a (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1333,	21 57 44.17	—10 36 34.78

Fortuna—Weisse XXI, 1333,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 1 38.52	— 1 29.78	+ 2 0.99
	Δt —	.24	
	Δϱ	.00	+ .08
	p —	.08	+ 5.03

Corr. Chron. — 0 m. s. 19.08

	a (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1333,	21 57 44.16	—10 36 34.81

Fortuna—Weisse XXI, 1333,

		Δa (m. s.)	Δδ (′ ″)
M. T.	7 44 51.49	— 1 43.76	— 0 33.46
	Δt —	.28	
	Δϱ	.00	— .02
	p —	.14	+ 4.96

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 1	Fortuna	58.0	12.0	27.0	9 7 12.33	2 45.590		
	Weisse XXI, 1333	54.6	9.0	24.0	9 9.20	2 33.519	— 1 56.87	— 12.071
	Fortuna	59.2	14.1	28.6	10 13.97	2 45.510		
	Weisse XXI, 1333	56.0	10.5	25.0	12 10.50	2 33.450	— 1 56.53	— 12.060
	Fortuna	2.1	17.0	31.7	13 16.93	2 45.489		
	Weisse XXI, 1333	59.0	13.7	28.2	15 13.63	2 33.478	— 1 56.70	— 12.011
2	Fortuna	47.5	2.0	16.5	8 44 2.00	3 46.280		
	Weisse XXI, 1333	54.0	9.0	23.0	46 8.67	2 38.442	— 2 6.67	— 20.831
	Fortuna	3.0	17.5	32.0	47 17.50	3 46.199		
	Weisse XXI, 1333	10.0	24.0	39.0	49 24.33	2 38.522	— 2 6.83	— 20.670
	Fortuna	26.7	41.0	55.5	50 41.07	3 46.198		
	Weisse XXI, 1333	33.0	47.6	2.0	52 47.53	2 38.532	— 2 6.46	— 20.659
	Fortuna	30.0	44.6	59.1	53 44.57	3 46.335		
	Weisse XXI, 1333	37.0	51.5	6.2	55 51.57	2 38.550	— 2 7.00	— 20.778
	Fortuna	5.0	19 0	34.1	57 19.37	3 46.352		
	Weisse XXI, 1333	12.2	26.2	41.0	59 26.47	2 38.512	— 2 7.10	— 20.833
	Fortuna	52.5	7.0	21.7	9 1 7.07	3 46.440		
	Weisse XXI, 1333	59.5	14.0	28.0	3 13.83	2 38.555	— 2 6.76	— 20.878
	Fortuna	0.9	15 0	29.2	4 15.13	3 46.387		
	Weisse XXI, 1333	8.0	22.0	37.0	6 22.33	2 38.499	— 2 7.30	— 20.881
5	Fortuna	0.0	15.0	29.0	44 14.67	5 40.991		
	Weisse XXI, 1333	26.0	40.0	55.0	46 40.33	2 40.725	— 2 25.66	— 43.320
	Fortuna	44.0	59.0	13.2	48 58.73	5 40.891		
	Weisse XXI, 1333	10.5	25.0	39.0	51 24.83	2 40.702	— 2 26.10	— 43.243
	Fortuna	5.2	20.2	-	52 20.20	5 40.834		
	Weisse XXI, 1333	31.7	46.0	1.0	54 46.23	2 40.589	— 2 26.03	— 43.299
	Fortuna	30.2	44.0	58.6	55 44.20	5 40.831		
	Weisse XXI, 1333	56.2	10.8	25.2	58 10.73	2 40.538	— 2 26.53	— 43.347
	Fortuna	43.0	57.0	11.5	58 57.16	5 40.738		
	Weisse XXI, 1333	9.0	23.5	38.0	10 1 23.50	2 40 645	— 2 26.34	— 43.147
	Fortuna	6.3	20.8	35.0	2 20.70	5 40.750		
	Weisse XXI, 1333	33.0	47.0	1.5	4 47.17	2 40.440	— 2 26.47	— 43.364
7	Fortuna	40.0	54.0	9.0	56 54.33	5 27.805		
	Weisse XXI, 1333	9.0	24.0	38.0	59 23.33	1 33.450	— 2 29.00	— 54.480
	Fortuna	59.2	13.0	28.0	18 13.40	5 36.218		
	Weisse XXI, 1333	28.0	42.2	57.0	20 42.40	1 41.805	— 2 29.00	— 54.538
	Fortuna	37.2	52.0	7.0	22 52.07	5 36.179		
	Weisse XXI, 1333	7.0	21.0	36.1	25 21.37	1 41.750	— 2 29.30	— 54.554
	Fortuna	4.0	18.0	32.0	26 18.00	5 36.262		
	Weisse XXI, 1333	33.0	47.0	2.0	28 47.33	1 41.685	— 2 29.33	— 54.702
	Fortuna	1.2	-	30.5	31 15.85	5 35.995		
	Weisse XXI, 1333	31.0	45.0	0.0	33 45.33	1 41.595	— 2 29.48	— 54.525
	Fortuna	1.2	16.0	30.6	36 15.93	5 36.162		
	Weisse XXI, 1333	30.0	45.0	59.0	38 44.67	1 41.570	— 2 28.74	— 54.717

RESULTS.

Oct. 1, Weisse XXI, 1333:

m. s.
Corr. Chron. — 0 20.50

	α	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 44.15	—10 36 34.85

Fortuna—Weisse XXI, 1333,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 6 51.04	— 1 56.78	— 3 4.70
		Δt — .31	
		Δϱ — .00	— .12
		p — .01	+ 5.02

2, Weisse XXI, 1333:

m. s.
Corr. Chron. — 0 21.10

	α	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 44.15	—10 36 34.89

Fortuna—Weisse XXI, 1333,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	8 53 42.70	— 2 6.87	— 5 19.53
		Δt — .35	
		Δϱ .00	— .21
		p — .02	+ 4.99

5, Weisse XXI, 1333:

m. s.
Corr. Chron. — 0 22.23

	α	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 44.12	—10 36 35.00

Fortuna—Weisse XXI, 1333,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	9 53 23.71	— 2 26.19	—11 5.30
		Δt — .40	
		Δϱ .00	— .46
		p + .08	+ 4.88

7, Weisse XXI, 1333:

m. s.
Corr. Chron. — 0 23.35

	α	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 44.10	—10 36 35.09

Fortuna—Weisse XXI, 1333,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	10 21 34.91	— 2 29.14	—13 58.97
		Δt — .41	
		Δϱ — .01	— .61
		p + .14	+ 4.79

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 8	Fortuna - - -	31.0	45.5	0.0	9 18 45.50	5 35.989		
	Weisse XXI, 1333 -	59.0	13.0	28.0	21 13.33	1 36.729	— 2 27.83	— 59.385
	Fortuna - - - -	36.0	50.0	5.0	23 50.33	5 35.830		
	Weisse XXI, 1333 -	4.0	18.0	33.0	26 18.33	1 36.775	— 2 28.00	— 59.180
	Fortuna - - - -	30.4	45.0	59.2	27 44.87	5 35.790		
	Weisse XXI, 1333 -	58.0	12.0	27.0	30 12.33	1 36.740	— 2 27.46	— 59.175
	Fortuna - - -	54.6	9.0	24.1	31 9.28	5 35.780		
	Weisse XXI, 1333 -	22.7	37.0	51.0	33 36.90	1 36.722	— 2 27.67	— 59.183
	Fortuna - - - -	25.2	39.0	52.0	34 38.73	5 35.820		
	Weisse XXI, 1333 -	52.0	7.0	21.5	37 6.83	1 36.601	— 2 28.10	— 59.344
	Fortuna - - - -	8.0	22.0	37.0	38 22.33	5 35.642		
	Weisse XXI, 1333 -	35.8	50.0	5.0	40 50.26	1 36.539	— 2 27.93	— 59.228
11	Fortuna - - - -	49.0	4.0	18.0	8 36 3.67	5 34.052		
	Weisse XXI, 1333 -	1.0	15.2	29.7	38 15.30	1 24.849	— 2 11.63	— 69.328
	Fortuna - - - -	31.0	46.0	0.8	40 45.93	5 34.110		
	Weisse XXI, 1333 -	43.0	58.0	12.0	42 57.67	1 24.901	— 2 11.74	— 69.334
	Fortuna - - - -	41.2	55.0	- -	43 54.86	5 33.771		
	Weisse XXI, 1333 -	52.5	7.0	21.2	46 6.90	1 24.748	— 2 12.04	— 69.148
	Fortuna - - - -	49.2	4.0	18.5	47 3.90	5 33.920		
	Weisse XXI, 1333 -	1.5	16.0	30.0	49 15.83	1 24.752	— 2 11.93	— 69.303
	Fortuna - - - -	3.0	17.2	32.0	50 17.40	5 33.753		
	Weisse XXI, 1333 -	14.6	29.0	44.0	52 29.20	1 24.682	— 2 11.80	— 69.196
	Fortuna - - - -	10.5	25.0	39.0	53 24.83	5 33.779		
	Weisse XXI, 1333	22.0	37.0	51.0	55 36.67	1 24.605	— 2 11.84	— 69.299
15	Fortuna - - - -	33.5	48.0	3.0	8 19 48.16	5 35.528		
	Weisse XXI, 1333 -	57.5	12.0	27.0	21 12.17	1 22.598	— 1 24.01	— 73.055
	Fortuna - - - -	55.5	10.0	24.1	22 9.87	5 35.485		
	Weisse XXI, 1333 -	19.0	34.0	48.0	23 33.67	1 22.420	— 1 23.80	— 73.190
	Fortuna - - - -	1.2	15.0	29.7	26 15.30	5 35.595		
	Weisse XXI, 1333 -	25.0	39.0	53.7	27 39.23	1 22.600	— 1 23.93	— 73.120
	Fortuna - - - -	37.4	52.0	7.1	29 52.16	5 35.471		
	Weisse XXI, 1333 -	1.2	16.0	30.0	31 15.73	1 22.602	— 1 23.57	— 72.994
	Fortuna - - -	59.0	13.0	28.0	33 13.33	5 35.542		
	Weisse XXI, 1333 -	22.7	37.0	51.0	34 36.90	1 22.500	— 1 23.57	— 73.167
	Fortuna - - - -	46.0	0.0	15.0	36 0.33	5 35.410		
	Weisse XXI, 1333 -	10.0	24.0	39.0	37 24.33	1 22.442	— 1 24.00	— 73.103
16	Fortuna - - -	44.0	58.0	13.0	8 3 58.33	5 37.698		
	Weisse XXI, 1333 -	51.0	6.0	20.0	5 5 67	1 25.462	— 1 7.34	— 72.361
	Fortuna - - - -	57.2	11.5	26.0	6 11.57	5 37.680		
	Weisse XXI, 1333	4.0	19.0	33.0	7 18.67	1 25.450	— 1 7.10	— 72.355
	Fortuna - - -	49.1	4.0	18.5	9 3.87	5 37.598		
	Weisse XXI, 1333 -	57.0	11.0	23.7	10 11.23	1 25.500	— 1 7.36	— 72.223
	Fortuna - - -	56.2	11.0	25.0	12 10.73	5 38.190		
	Weisse XXI, 1333 -	3.7	18.0	32.0	13 17.90	1 25.882	— 1 7.17	— 72.433

RESULTS.

Oct. 8: Corr. Chron. — 0 m. 24.10 s.

Weisse XXI, 1333, a = 21 h. 57 m. 44.09 s., δ = −10° 36′ 35.14″

Fortuna—Weisse XXI, 1333.

		Δa	Δδ
M. T.	9 h. 28 m. 41.06 s.	— 2 m. 27.83 s.	— 15′ 10.64″
	Δt	— .40	
	Δρ	.00	— .62
	p	+ .06	+ 4.81

11: Corr. Chron. — 0 m. 25.23 s.

Weisse XXI, 1333, a = 21 h. 57 m. 44.05 s., δ = −10° 36′ 35.29″

Fortuna—Weisse XXI, 1333,

		Δa	Δδ
M. T.	8 h. 44 m. 49.87 s.	— 2 m. 11.83 s.	— 17′ 44.62″
	Δt	— .36	
	Δρ	.00	— .71
	p	+ .02	+ 4.75

15: Corr. Chron. — 0 m. 29.10 s.

Weisse XXI, 1333, a = 21 h. 57 m. 44.00 s., δ = −10° 36′ 35.50″

Fortuna—Weisse XXI, 1333,

		Δa	Δδ
M. T.	8 h. 27 m. 24.09 s.	— 1 m. 23.81 s.	— 18′ 43.59″
	Δt	— .22	
	Δρ	.00	— .74
	p	+ .01	+ 4.64

16: Corr. Chron. — 0 m. 29.50 s.

Weisse XXI, 1333, a = 21 h. 57 m. 43.99 s., δ = −10° 36′ 35.55″

Fortuna—Weisse XXI, 1333,

		Δa	Δδ
M. T.	8 h. 7 m. 21.62 s.	— 1 m. 7.74 s.	— 18′ 31.88″
	Δt	— .23	
	Δρ	.00	— .74
	p	— .01	+ 4.60

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 19	Fortuna - - - -	48.9	3.0	- -	9 59 3.08	5 38.940		
	Weisse XXI, 1333 -	- -	- -	21.0	59 6.42	1 33.181	— 0 3.34	— 65.894
	Fortuna - - - -	52.0	6.0	21.0	10 1 6.33	5 39.062		
	Weisse XXI, 1333 -	56.0	11.0	24.5	1 10.50	1 33.370	— 0 4.17	— 65.817
	Fortuna - - - -	38.5	52.0	7.0	2 52.50	5 39.049		
	Weisse XXI, 1333 -	42.0	56.0	11.5	2 56.50	1 33.352	— 0 4.00	— 65.822
	Fortuna - - -	56.5	11.0	26.0	5 11.17	5 38.940		
	Weisse XXI, 1333 -	- -	15.2	29.8	5 15.28	1 33.192	— 0 4.11	— 65.873
	Fortuna - - - -	45.5	59.5	14.0	6 59.66	5 39.001		
	Weisse XXI, 1333 -	49.0	4.0	18.0	7 3.66	1 33.238	— 0 4.00	— 65.888
	Fortuna - - - -	28.9	43.0	57.5	8 43.13	5 38.829		
	Weisse XXI, 1333 -	33.0	47.2	1.0	8 47.07	1 33.275	— 0 3.94	— 65.679
20	Weisse XXI, 1333 -	15.5	29.5	- -	8 49 29.73	1 35.622	+ 0 19.50	— 62.908
	Fortuna - - - -	-	49.0	3.0	49 49.23	5 38.405		
	Weisse XXI, 1333 -	12 8	27.0	41.9	52 27.23	1 35.871	+ 0 19.77	— 62.684
	Fortuna - - - -	33.0		51.0	52 47.00	5 38.430		
	Weisse XXI, 1333 -	11.2	26.0	- -	56 26.28	1 36.000	+ 0 20.00	— 62.430
	Fortuna - - - -	- -	46.0	59.5	56 46.23	5 38.305		
21	Weisse XXI, 1333 -	23.1	38.1	52.0	9 3 37.73	1 34.959	+ 0 45.93	— 59.248
	Fortuna - - - -	9.0	24.0	38.0	4 23.66	5 34.082		
	Weisse XXI, 1384 -	35.0	49.0	4.0	5 49.33	4 36.382	— 1 25.67	— 14.845
	Weisse XXI, 1333 -	29.1	44.0	58.0	7 43.70	1 35.160	+ 0 46.06	— 58.845
	Fortuna - - -	15.1	29.5	44.7	8 29.76	5 33.880		
	Weisse XXI, 1384 -	41.0	55.0	10.0	9 55.33	4 36.250	— 1 25.57	— 14.775
	Weisse XXI, 1333 -	46.2	1.0	15.0	11 0.73	1 35.020	+ 0 46.74	— 58.994
	Fortuna - - - -	33.0	47.5	1.9	11 47.47	5 33.889		
	Weisse XXI, 1384 -	58.0	13.0	27.0	13 12.66	4 36.268	— 1 25.19	— 14.766
	Weisse XXI, 1333 -	47.0	1.2	16.0	15 1.40	1 35.122	+ 0 46.26	— 58.958
	Fortuna - - -	33.0	48.0	2.0	15 47.66	5 33.955		
	Weisse XXI, 1384 -	58.5	13.6	28.0	18 13.37	4 36.269	— 1 25.71	— 14.831
23	Fortuna - - - -	43.0	57.0	12.0	8 13 57.33	3 43.576		
	Weisse XXI, 1384 -	-	26.0	41.0	14 26.00	3 38.781	— 0 28.67	— 4.795
	Fortuna - - - -	3.0	17.0	- -	15 17.00	3 43.641		
	Weisse XXI, 1384 -	31.9	46.0	0.9	15 46.27	3 38.893	— 0 29.27	— 4.748
	Fortuna - - - -	20.8	35.0	- -	16 35.00	3 43.530		
	Weisse XXI, 1384 -	49.0	4.1	18.7	17 3.93	3 38.920	— 0 28.93	— 4.610
	Fortuna - - - -	43.1	58.0	- -	17 58.00	3 43.612		
	Weisse XXI, 1384 -	12.0	27.1	41.2	18 26.77	3 38.807	— 0 28.77	— 4.805
	Fortuna - - - -	57.6	12.0	- -	19 12.00	3 43.412		
	Weisse XXI, 1384	26.1	41.0	55.2	19 40.77	3 38.912	— 0 28.77	— 4.500

RESULTS.

Corr. Chron. — 0 m. s. 31.61

	a	δ
	h. m. s.	° ′ ″
Weisse XXI. 1333,	21 57 43.96	—10 36 35.78

Fortuna—Weisse XXI, 1333,

	h. m. s.		Δa		Δδ
			m. s.		′ ″
M. T.	10 3 27.70		— 0 3.93		—16 51.76
		Δt —	.01		
		Δϱ —	.02	—	.80
		p +	.16	+	4.37

Corr. Chron. — 0 m. s. 31.92

	a	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 43.96	—10 36 35.80

Fortuna—Weisse XXI, 1333,

	h. m. s.		Δa		Δδ
			m. s.		′ ″
M. T.	8 52 35.57		+ 0 19.76		—16 3.25
		Δt +	.05		
		Δϱ —	.01	—	.66
		p +	.07	+	4.43

Corr. Chron. — 0 m. s. 32.46

	a	δ
	h. m. s.	° ′ ″
Weisse XXI, 1333,	21 57 43.95	—10 36 35.84
Weisse XXI, 1384,	21 59 55 87	—10 47 41.95

Fortuna—Weisse XXI, 1333,

	h. m. s.		Δa		Δδ
			m. s.		′ ″
M. T.	9 9 34.68		+ 0 46.25		—15 6.98
		Δt +	.12		
		Δϱ —	.01	—	.64
		p +	.10	+	4.38

Fortuna—Weisse XXI, 1384,

	h. m. s.		m. s.		′ ″
M. T.	9 9 34.68		— 1 25.54		— 3 47.53
		Δt —	.23		
		Δϱ	.00	—	.16
		p +	.10	+	4.38

Corr. Chron. — 0 m. s. 33.80

	a	δ
	h. m. s.	° ′ ″
Weisse XXI, 1384,	21 59 55.83	—10 47 42.07

Fortuna—Weisse XXI, 1384,

	h. m. s.		Δa		Δδ
			m. s.		′ ″
M. T.	8 19 8.11		— 0 28.74		— 1 11.79
		Δt —	.08		
		Δϱ —	.00	—	.05
		p —	.04	+	4.36

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 23	Fortuna	8.7	23.0	. .	8 20 23.00	3 43.628		
	Weisse XXI, 1384	37.1	52.0	6.5	20 51.87	3 38.888	— 0 28.87	— 4.740
	Fortuna	29.1	44.1	.	21 44.10	3 43.412		
	Weisse XXI, 1384	57.8	12.7	27.3	22 12.60	3 38.882	— 0 28.50	— 4.530
	Fortuna	45.1	59.7	. .	21 59.70	3 43.491		
	Weisse XXI, 1384	13.8	28.1	43.1	22 28.33	3 38.812	— 0 28.63	— 4.679
	Fortuna	0.8	15.0	.	23 15.00	3 43.473		
	Weisse XXI, 1384	29.1	43.0	58.0	23 43.27	3 38.802	— 0 28.27	— 4.671
	Fortuna	24.0	38.0	.	26 38.00	3 43.448		
	Weisse XXI, 1384	52.1	7.0	21.0	27 6.70	3 38.812	— 0 28.70	— 4.636
24	Weisse XXI, 1384	44.0	58.5	13.0	9 2 58.50	2 39.225	+ 0 3.97	+ 1.717
	Fortuna	48.0	2.4	17.0	3 2.47	2 37.508		
	Weisse XXI, 1384	21.0	35.5	50.0	4 35.50	2 39.211	+ 0 3.90	+ 1.656
	Fortuna	25.0	39.2	54.0	4 39.40	2 37.555		
	Weisse XXI, 1384	46.2	0.0	15.0	6 0.40	2 39.218	+ 0 4.00	+ 1.797
	Fortuna	50.0	4.2	19.0	6 4.40	2 37.421		
	Weisse XXI, 1384	7.2	21.2	35.5	7 21.30	2 39.175	+ 0 3.84	+ 1.717
	Fortuna	11.0	25.0	39.4	7 25.14	2 37.458		
	Weisse XXI, 1384	43.5	57.0	12.0	8 57.50	2 39.170	+ 0 3.76	+ 1.619
	Fortuna	47.0	1.2	15.6	9 1.26	2 37.551		
	Weisse XXI, 1384	27.0	41.0	56.0	10 41.33	2 39.162	+ 0 3.77	+ 1.800
	Fortuna	30.8	45.0	59.5	10 45.10	2 37.362		
	Weisse XXI, 1384	9.0	24.0	38.0	12 23.67	2 39.172	+ 0 4.00	+ 1.800
	Fortuna	13.2	27.6	42.2	12 27.67	2 37.372		
	Weisse XXI, 1384	18.0	32.0	47.0	14 32.33	2 39.269	+ 0 3.70	+ 2.017
	Fortuna	21.7	36.0	50.4	14 36.03	2 37.252		
	Weisse XXI, 1384	46.0	0.0	15.0	16 0.33	2 39.258	+ 0 4.10	+ 1.863
	Fortuna	49.8	4.5	19.0	16 4.43	2 37.395		
	Weisse XXI, 1384	26.2	40.0	55.0	17 40.40	2 39.249	+ 0 3.93	+ 1.827
	Fortuna	30.0	44.0	59.0	17 44.33	2 37.422		
25	Weisse XXI, 1384	58.0	13.0	27.0	8 25 12.66	2 38.311	+ 0 35.84	+ 8.359
	Fortuna	34.0	. .	3.0	25 48.50	2 29.952		
	Weisse XXI, 1384	17.9	33.0	48.0	27 32.97	2 38.242	+ 0 35.70	+ 8.432
	Fortuna	54.0	8.0	24.0	28 8.67	2 29.810		
	Weisse XXI, 1384	25.1	39.5	54.2	29 39.60	2 38.251	+ 0 36.35	+ 8.322
	Fortuna	. .	16.0	30.0	30 15.95	2 29.929		
	Weisse XXI, 1384	48.1	3.0	17.0	34 2.70	2 38.218	+ 0 35.97	+ 8.550
	Fortuna	24.0	39.0	53.0	34 38.67	2 29.668		
Nov. 21	Weisse XXII, 467	9.0	23 0	38.0	7 30 23.33	5 39.598	+ 2 43.67	+ 44.493
	Fortuna	53.0	7.0	21.0	33 7.00	2 38.159		
	Weisse XXII, 467	39.2	53.5	8.1	36 53.93	5 39.681	+ 2 43.73	+ 44.735
	Fortuna	23.0	38.0	52.0	39 37.66	2 38.000		

RESULTS.

Corr. Chron. — 0 m. s. 33.72

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1384,	21 59 55.81	−10 47 42.13

Fortuna—Weisse XXI, 1384,

		Δα (m. s.)	Δδ (′ ″)
M. T.	9 9 37.30	+ 0 3.90	+ 0 27.37
	Δt	+ .01	
	Δϱ	.00	+ .02
	p	+ .11	+ 4.29

Corr. Chron. — 0 m. s. 33.30

	α (h. m. s.)	δ (° ′ ″)
Weisse XXI, 1384,	21 59 55.79	−10 47 42.19

Fortuna—Weisse XXI, 1384,

		Δα (m. s.)	Δδ (′ ″)
M. T.	8 29 9.65	+ 0 35.96	+ 2 9.35
	Δt	+ .10	
	Δϱ	.00	+ .09
	p	+ .06	+ 4.29

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 21	Weisse XXII, 467	31.5	46.0	0.0	7 53 45.83	5 39.412	+ 2 44.83	+ 44.948
	Fortuna - - - -	16.0	31.0	45.0	56 30.66	2 37.518		
	Weisse XXII, 467 -	24.5	39.0	55.2	9 27 38.90	5 38.622	+ 2 49.76	+ 46.586
	Fortuna - - -	14.0	29.0	43 0	30 28.66	2 35.090		
	Weisse XXII, 467 -	23.5	38.0	52.5	33 38.00	5 38.480	+ 2 50.00	+ 46.984
	Fortuna - - - -	14.0	28.0	42.0	36 28.00	2 34.550		
	Weisse XXII, 467	14.9	29.0	44.1	37 29.33	5 38.392	+ 2 49.83	+ 46.938
	Fortuna - - - -	5.0	19.0	33.5	40 19.16	2 34.508		
	Weisse XXII, 467 -	5.2	19.4	34.0	41 19.53	5 38.291	+ 2 50.04	+ 46.815
	Fortuna - - - -	55.7	9.0	24.0	44 9.57	2 34.530		
27	Weisse XXII, 641 -	15.9	31.0	45.2	6 38 30.70	5 52.821	+ 1 43.33	+ 72.614
	Fortuna - - - -	- -	14.0	39.0	40 14.03	1 40.332		
	Weisse XXII, 641 -	11.0	25.0	39.0	42 25.00	5 52.900	+ 1 43.83	+ 72.844
	Weisse XXII, 675 -	20.0	34.1	- -	43 34.13	1 44.681	+ 0 34.70	+ 4.500
	Fortuna - - - .	55.0	8.5	23.0	44 8.83	1 40.181		
	Weisse XXII, 641 -	53.1	7.0	21.5	46 7.20	5 52.890	+ 1 43.83	+ 72.914
	Weisse XXII, 675 -	2.0	16.5	31.0	47 16.50	1 44.695	+ 0 34.53	+ 4.594
	Fortuna - - - -	37.2	50.9	5.0	47 51.03	1 40.101		
	Weisse XXII, 641 .	45.1	59.2	14.2	48 59.50	5 52.841	+ 1 45.50	+ 72.761
	Weisse XXII, 675 -	56.0	10.0	- -	50 10.03	1 44.700	+ 0 34.97	+ 4.495
	Fortuna - - -	31.0	45.0	59.0	50 45.00	1 40.205		
	Weisse XXII, 641 -	27.3	42.0	56.0	53 41.76	5 52.960	+ 1 45.04	+ 72.910
	Weisse XXII, 675 -	37.0	-	6.0	54 51.50	1 44.702	+ 0 35.30	+ 4.527
	Fortuna - - - -	12.4	26.8	41.2	55 26.80	1 40.175		
	Weisse XXII, 641 -	37.1	52.1	6.2	57 51.80	5 52.881	+ 1 44.50	+ 72.951
	Weisse XXII, 675 -	46.8	1.0	15.0	59 0.93	1 44.775	+ 0 35.37	+ 4.720
	Fortuna - - -	22.0	36.0	50.9	59 36.30	1 40.055		
	Weisse XXII, 641 -	44.0	58.0	13.0	7 1 58.33	5 52.875	+ 1 44.67	+ 72.979
	Weisse XXII, 675 -	53.2	7.1	22.0	3 7.43	1 44.705	+ 0 35.57	+ 4.684
	Fortuna - - - -	29.0	43.0	57.0	3 43.00	1 40.021		
	Weisse XXII, 641 -	29.2	43.7	58.1	5 43.66	5 52.790	+ 1 44.57	+ 73.215
	Weisse XXII, 675 -	38.4	52.6	7.5	6 52.83	1 44.672	+ 0 35.40	+ 4.972
	Fortuna - - -	13.6	28.5	42.6	7 28.23	1 39.700		
	Weisse XXII, 641 -	19.3	34.1	48.1	10 33.83	5 52.782	+ 1 45.00	+ 73.297
	Weisse XXII, 675 -	-	43.0	57.0	11 42.94	1 44.678	+ 0 35.89	+ 5.068
	Fortuna - - -	4.0	18.5	34.0	12 18.83	1 39.610		
	Weisse XXII, 641 -	46.0	1.0	14.9	27 0.63	5 52.579	+ 1 46.07	+ 73.584
	Weisse XXII, 675 -	55.6	10.0	-	28 10.94	1 44.589	+ 0 35.76	+ 5.469
	Fortuna - - - -	32.5	46.6	1.0	28 46.70	1 39.120		
	Weisse XXII, 641 -	54.6	9.1	23.6	31 9.10	5 52.642	+ 1 46 30	+ 73.568
	Weisse XXII, 675 -	4.0	18.5	32.5	32 18.33	1 44.451	+ 0 37.07	+ 5.252
	Fortuna - - -	41.0	55.2	10.0	32 55.40	1 39.199		
	Weisse XXII, 641 -	11.3	26.1	40.2	34 25.86	5 52.645	+ 1 46 67	+ 73.760
	Weisse XXII, 675 -	21.0	35.2	-	35 35.14	1 44.375	+ 0 37.39	+ 5.365
	Fortuna - - -	58.0	12.7	26.9	36 12.53	1 39.010		
28	Weisse XXII, 675 -	32.2	47.0	- -	6 58 47.06	5 28.470	+ 1 53.27	+ 30.911
	Fortuna - - -	26.0	40.0	55.0	7 0 40.33	3 27.620		
	Weisse XXII, 675 -	29.5	44.0	58.2	2 43.90	5 28.440	+ 1 53.67	+ 30.912
	Fortuna - - - -	23.2	37.5	52.0	4 37.57	3 27.589		

RESULTS.

m. s.
Corr. Chron. — 0 47.74

	α	δ
	h m. s.	° ′ ″
Weisse XXII, 467,	22 22 11.06	— 9 10 15.88

Fortuna—Weisse XXII, 467,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M T.	8 47 52.36	+ 2 47.41	+11 45.89
		Δt + .46	
		Δρ + .02	+ .58
		p + .16	+ 3.48

m. s.
Corr. Chron. — 0 48.15

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 641,	22 30 37.96	— 8 39 43.67

Fortuna—Weisse XXII, 641,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 4 9.07	+ 1 44.94	+18 43.76
		Δt + .28	
		Δρ + .01	+ .71
		p + .06	+ 3.43

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 28	Weisse XXII, 675	21.7	36.0	50.0	7 5 35 90	5 28.410	+ 1 53.16	+ 31.053
	Fortuna	16.1	30.0	44.1	7 30 06	3 27.418		
	Weisse XXII, 675	5.2	19.4	-	8 19 46	5 28.388	+ 1 54.27	+ 31.054
	Fortuna	59.5	13.6	28.1	9 13 73	3 27.395		
	Weisse XXII, 675	52.0	6.1	20.2	11 6 10	5 28.389	+ 1 54.23	+ 31.120
	Fortuna	46.0	0.0	15.0	13 0 33	3 27.330		
	Weisse XXII, 675	59.1	13.0	27.9	14 13 33	5 28.318	+ 1 54.67	+ 31.098
	Fortuna	53.6	8.0	22.4	16 8 00	3 27.281		
	Weisse XXII, 675	10.9	25.1	39.2	17 25 06	5 28.218	+ 1 54.64	+ 31.294
	Fortuna	5.0	19.6	34.5	19 19 70	3 26.985		
	Weisse XXII, 675	52.0	7.0	21.2	21 6 73	5 28.100	+ 1 55.03	+ 31.396
	Fortuna	47.0	1.9	16.4	23 1 76	3 26.765		
30	Weisse XXII, 761	1.7	16.0	30.5	7 40 16 07	2 35.810	+ 0 51.93	— 3.752
	Fortuna	54.0	8.0	22.0	41 8 00	2 39.562		
	Weisse XXII, 761	22.1	36.0	50.8	43 36 30	2 35.732	+ 0 51.80	— 3.610
	Fortuna	14.0	27.5	42.8	44 28 10	2 39.342		
	Weisse XXII, 761	9.3	23.5	37.5	46 23 40	2 35.721	+ 0 51.70	— 3.666
	Fortuna	1.0	15.0	29.3	47 15 10	2 39.387		
	Weisse XXII, 761	42.9	57.0	11.5	47 57 13	2 35.692	+ 0 52.17	— 3.726
	Fortuna	35.0	49.0	3.9	48 49 30	2 39.418		
	Weisse XXII, 761	22.0	36.0	50.7	49 36 23	2 35.664	+ 0 52.44	— 3.645
	Fortuna	14.0	29.0	43.0	50 28 67	2 39.309		
	Weisse XXII, 761	15.7	29.7	44.1	51 29 83	2 35.630	+ 0 52.37	— 3.632
	Fortuna	8.0	22.1	36.5	52 22 20	2 39.262		
	Weisse XXII, 761	55.0	9.5	24.2	53 9 57	2 35.675	+ 0 52.40	— 3.587
	Fortuna	48.0	1.9	16.0	54 1 97	2 39.262		
	Weisse XXII, 761	46.0	0.0	15.2	56 0 40	2 35.538	+ 0 52.60	— 3.472
	Fortuna	39.0	53.0	7.0	56 53 00	2 39.010		
	Weisse XXII, 761	26.0	40.2	55.0	57 40 40	2 35.581	+ 0 52.93	— 3.441
	Fortuna	19.0	33.5	47.5	58 33 33	2 39.022		
	Weisse XXII, 761	22.9	37.5	51.5	8 0 37 30	2 35.518	+ 0 52.53	— 3.402
	Fortuna	16.0	29.5	44.0	1 29 83	2 38.920		
	Weisse XXII, 761	53.0	7.5	21.8	3 7 43	2 35.451	+ 0 53.13	— 3.490
	Fortuna	46.2	0.5	-	4 0 56	2 38.941		
	Weisse XXII, 761	25.2	39.5	54.0	6 39 57	2 35.410	+ 0 53.49	— 3.311
	Fortuna	18.5	33.0	-	7 33 06	2 38.721		
	Weisse XXII, 761	8.2	22.2	36.5	9 22 30	2 35.362	+ 0 53 60	— 3.258
	Fortuna	1.7	16.0	30.0	10 15 90	2 38.620		
	Weisse XXII, 761	8.1	22.0	37.0	9 21 22 37	2 33.380	+ 0 56.96	— 1.800
	Fortuna	5.0	19.0	34.0	22 19 33	2 35.180		
	Weisse XXII, 761	53.2	7.5	22.0	24 7 57	2 33.285	+ 0 57.40	— 1.788
	Fortuna	51.0	5.0	18.9	25 4 97	2 35.073		
	Weisse XXII, 761	42.5	55.0	9.0	25 55 17	2 33.232	+ 0 57.01	— 1.623
	Fortuna	38.5	52.0	-	26 52 18	2 34.855		

RESULTS.

Nov. 28

m. s.
Corr. Chron. — 0 48.69

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 675,	22 31 47.09	— 8 22 11.93

Fortuna—Weisse XXII, 675,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	7 11 0.24	+ 1 54.24	+ 7 58.07
	Δt	+ .31	
	Δϱ	.00	+ .30
	p	+ .07	+ 3.39

30

m. s.
Corr. Chron. — 0 49.31

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 761,	22 35 30.41	— 7 59 9.41

Fortuna—Weisse, XXII, 761,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 11 9.16	+ 0 53.40	— 0 49.18
	Δt	+ .15	
	Δϱ	.00	+ .04
	p	+ .14	+ 3.27

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs	m. s.	revs.
Dec. 1	Weisse XXII, 761	36.1	50.0	4.3	7 16 50.13	5 33.600	+ 2 11.54	+ 23.755
	Fortuna	47.0	2.0	16.0	19 1.67	4 26.990		
	Weisse XXII, 761	26.6	41.6	55.1	20 41.10	5 33.562	+ 2 11.60	+ 23.857
	Fortuna	38.1	53.0	7.0	22 52.70	4 26.850		
	Weisse XXII, 761	58.2	12.5	26.2	24 12.30	5 33.448	+ 2 11.87	+ 23.753
	Fortuna	9.7	24.1	38.7	26 24.17	4 26.840		
	Weisse XXII, 761	20.3	34.2	48.2	27 34.23	5 33.408	+ 2 12.00	+ 23.835
	Fortuna	32.0	46.2	0.5	29 46.23	4 26.718		
	Weisse XXII, 761	32.5	47.1	1.2	30 46.93	5 33.453	+ 2 12.02	+ 23.728
	Fortuna	. .	59.0	13.2	32 58.95	4 26.870		
5	Weisse XXII, 900	17.0	31.0	. .	8 37 31.00	5 56.785	+ 0 30.00	+ 71.790
	Fortuna	. .	1.0	14.5	38 1.00	1 45.120		
	Weisse XXII, 900	48.1	2.0	.	41 2.00	5 56.618	+ 0 29.20	+ 71.978
	Fortuna	.	31.2	46.0	41 31.20	1 44.765		
	Weisse XXII, 900	26.2	40.2	. .	44 40.20	5 56.670	+ 0 29.30	+ 71.933
	Fortuna	55.0	9.5	24.0	45 9.50	1 44.862		
8	Weisse XXII, 962	58.1	12.5	27.0	6 53 12.53	2 40.348	+ 1 33.80	— 25.326
	Fortuna	32.0	46.0	1.0	54 46.33	4 39.765		
	Weisse XXII, 962	24.2	39.1	53.0	56 38.77	2 40.280	+ 1 33.83	— 25.131
	Fortuna	58.0	13.0	26.8	58 12.60	4 39.502		
	Weisse XXII, 962	39.1	53.2	7.9	59 53.40	2 40.344	+ 1 34.07	— 24.927
	Fortuna	13.0	27.5	41.9	7 1 27.47	4 39.362		
	Weisse XXII, 962	18.2	33.1	47.5	3 32.93	2 40.195	+ 1 34.07	— 25.016
	Fortuna	53.0	7.0	21.0	5 7.00	4 39.302		
	Weisse XXII, 962	47.1	1.2	16.0	6 1.43	2 40.210	+ 1 34.77	— 24.831
	Fortuna	21.9	36.0	50.7	7 36.20	4 39.132		
	Weisse XXII, 962	57.5	12.0	27.0	9 12.17	2 40.142	+ 1 34.73	— 24.859
	Fortuna	32.5	47.0	1.2	10 46.90	4 39.092		
	Weisse XXII, 962	44.1	58.1	12.5	11 58.23	2 40.129	+ 1 34.80	— 24.528
	Fortuna	19.0	33.1	47.0	13 33.03	4 38.748		
	Weisse XXII, 962	41.2	55.5	10.5	14 55.73	2 40.115	+ 1 35.39	— 24.445
	Fortuna	16.6	31.0	. .	16 31.12	4 38.651		
	Weisse XXII, 962	59.1	13.0	27.9	17 13.33	2 40.042	+ 1 34.90	— 24.539
	Fortuna	34.1	48.0	2.6	18 48.23	4 38.672		
	Weisse XXII, 962	30.2	44.1	59.1	20 44.47	2 40.042	+ 1 35.16	— 24.469
	Fortuna	5.2	19.7	34.0	22 19.63	4 38.602		
13	Weisse XXII, 1049	24.5	39.0	53.2	6 30 38.90	5 36.300	+ 4 26.35	+ 37.794
	Weisse XXII, 1057	51.0	. .	19.6	31 5.30	5 33.544	+ 3 59.95	+ 35.038
	Fortuna	. .	5.0	20.0	35 5.25	2 41.560		

RESULTS.

Corr. Chron. — 0 m. s. 51.36

	α	δ
Weisse XXII, 761	h. m. s. 22 35 30.40	— 7° 59′ 9″.50

Fortuna—Weisse XXII, 761,

		Δα	Δδ
M. T.	h. m. s. 7 25 21.38	m. s. + 2 11.81	′ ″ + 6 5.58
	Δt	+ .36	
	Δϱ	+ .04	+ .24
	p	+ .10	+ 3.30

Corr. Chron. — 0 m. s. 53.00

	α	δ
Weisse XXII, 900,	h. m. s. 22 42 50.61	— 7° 41′ 20″.29

Fortuna—Weisse XXII, 900,

		Δα	Δδ
M. T.	h. m. s. 8 40 40.90	m. s. + 0 29.50	′ ″ + 18 25.07
	Δt	+ .08	
	Δϱ	+ .01	+ .97
	p	+ .16	+ 3.11

Corr. Chron. — 0 m. s. 57.34

	α	δ
Weisse XXII, 962,	h. m. s 22 45 57.91	— 6° 53′ 29″ 77

Fortuna—Weisse XXII, 962,

		Δα	Δδ
M. T.	h. m. s. 7 7 57.51	m. s. + 1 34.55	′ ″ — 6 21.27
	Δt	+ .26	
	Δϱ	.00	— .24
	p	+ .09	+ 3.12

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 13	Weisse XXII, 1049	38.1	52.0	7.0	6 39 52.37	5 36.322	+ 4 26.63	+ 38.176
	Weisse XXII, 1057	5.0	18.5	34.0	40 19.16	5 33.477	+ 3 59.84	+ 35.331
	Fortuna - - - -	5.0	19.0	33.0	44 19.00	2 41.200		
	Weisse XXII, 1049 -	54.1	9.0	23.2	48 8.77	5 36.293	+ 4 28.44	+ 38.437
	Weisse XXII, 1057 -	21.0	- -	49.2	48 35.10	5 33.401	+ 4 2.11	+ 35.545
	Fortuna - - - -	- -	37.0	53.0	52 37.21	2 40.910		
	Weisse XXII, 1049 .	14.1	28.1	43.2	57 28.47	5 36.105	+ 4 27.74	+ 38.563
	Weisse XXII, 1057 -	41.0	55.0	9.2	57 53.07	5 33.272	+ 4 3.14	+ 35.730
	Fortuna - - - -	42.0	56.0	- -	7 1 56.21	2 40.596		
18	Weisse XXII, 1272 -	35.0	49.0	3.0	6 17 49.00	2 40.750	+ 2 25.67	+ 0.008
	Weisse XXII, 1283 -	19.0	33.0	48.0	18 33.33	2 41.430	+ 1 41.34	+ 0.688
	Fortuna - - -	1.0	14.0	29.0	20 14.67	2 40.742		
	Weisse XXII, 1272 -	59.0	14.0	28.0	26 13.67	2 40 718	+ 2 26.00	+ 0.240
	Weisse XXII, 1283 .	44.0	57.5	12.0	26 57.83	2 41.400	+ 1 41.84	+ 0.922
	Fortuna - - -	25.5	39.5	54.0	28 39.67	2 40.478		
	Weisse XXII, 1272 -	45.0	59.2	13.6	29 59.26	2 40.672	+ 2 26.41	+ 0.264
	Weisse XXII, 1283 .	29.2	43.0	58.0	30 43.40	2 41.398	+ 1 42.27	+ 0.990
	Fortuna - - - -	11.0	26.0	40.0	32 25.67	2 40.408		
	Weisse XXII, 1272 -	57.0	11.0	25.0	34 11.00	2 40.547	+ 2 26.80	+ 0.395
	Weisse XXII, 1283 -	41.0	55.0	9.5	34 55.17	2 41.380	+ 1 42.63	+ 1.228
	Fortuna - - - -	23.6	37.8	52.0	36 37.80	2 40.152		
	Weisse XXII, 1272 -	13.0	28.0	42.0	8 20 27.67	2 38.280	+ 2 29.33	+ 1.479
	Weisse XXII, 1283	56.9	12.2	26.0	21 11.70	2 39.010	+ 1 45.30	+ 2.209
	Fortuna - - - -	43.0	57.0	11.0	22 57.00	2 36.801		

RESULTS.

m. s.
Corr. Chron. — 1 0.40

	α	δ
	h. m s.	° ′ ″
Weisse XXII, 1049,	22 50 29.68	— 6 28 24.88
Weisse XXII, 1057,	22 50 56.57	— 6 27 42.37

Fortuna—Weisse, XXII, 1049,

		△α	△δ
	h. m. s.	m. s.	′ ″
M. T.	6 47 29.02	+ 4 27.29	+ 9 47.76
	Δt	+ .73	
	Δϱ	.00	+ .36
	p	+ .08	+ 3.01

Fortuna—Weisse, 1057,

	h. m s.	m. s.	′ ″
M. T.	6 47 29.02	+ 4 1.26	+ 9 4.26
	Δt	+ .66	
	Δϱ	.00	+ .33
	p	+ .08	+ 3.01

m. s.
Corr. Chron. — 0 58.04

	α	δ
	h. m. s.	° ′ ″
Weisse XXII, 1272,	23 0 17.15	— 5 34 23.66
Weisse XXII, 1283,	23 1 1.63	— 5 34 35.56

Fortuna—Weisse XXII, 1272,

		△α	△α
	h. m. s.	m. s.	′ ″
M. T.	6 51 12.92	+ 2 26.84	+ 0 7.33
	Δt	+ .40	
	Δϱ	.00	.00
	p	+ .09	+ 2.89

Fortuna—Weisse XXII, 1283,

	h. m. s.	m. s.	′ ″
M. T.	6 51 12.92	+ 1 42.68	+ 0 18.55
	Δt	+ .27	
	Δϱ	.00	+ .01
	p	+ .09	+ 2.89

MASSALIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 19	Massalia	29.0	44.0	58.0	8 31 43.70	4 30.375		
	Weisse XXIII, 1039	56.5	11.0	25.0	35 10.83	2 37.782	— 3 27.13	— 18.502
	Massalia	29.2	43.1	57.0	39 43.10	4 30.545		
	Weisse XXIII, 1039	. .	10.0	24.0	43 10.00	2 37.840	— 3 26.90	— 18.614
	Massalia	21.0	35.1	49.2	45 35.10	4 30.512		
	Weisse XXIII, 1039	48.5	2.0	17.0	49 2.50	2 37.580	— 3 27.40	— 18.841
	Massalia	36.0	50.0	4.0	50 50.50	4 30.495		
	Weisse XXIII, 1039	.	17.0	31.0	54 17.00	2 37.682	— 3 26.50	— 18.722
	Massalia	23.5	38.0	52.0	56 37.83	4 30.618		
	Weisse XXIII, 1039	52.0	6.0	20.9	9 0 6.30	2 37.625	— 3 28.47	— 18.902
	Massalia	56.4	10.0	24.2	2 10.20	4 30.595		
	Weisse XXIII, 1039	24.0	38.2	52.2	5 38.13	2 37.742	— 3 27.93	— 18.762
	Massalia	21.0	35.0	49.0	7 35.00	4 30.692		
	Weisse XXIII, 1039	49.0	3.0	18.0	11 3.33	2 37.730	— 3 28.33	— 18.871
	Massalia	52.0	6.5	21.0	13 6.50	4 30.712		
	Weisse XXIII, 1039	20.0	34.0	48.5	16 34.16	2 37.532	— 3 27.66	— 19.089
	Massalia	25.0	39.0	53.0	18 39.00	4 30.810		
	Weisse XXIII, 1039	53.9	7.0	22.0	22 7.63	2 37.525	— 3 28.63	— 19.194
	Massalia	5.7	19.0	34.0	25 19.57	4 30.807		
	Weisse XXIII, 1039	34.0	48.0	2.0	28 48.00	2 37.432	— 3 28.43	— 19.284
	Massalia	29.3	44.0	58.0	30 43.77	4 30.818		
	Weisse XXIII, 1039	58.5	12.0	27.2	34 12.57	2 37.595	— 3 28.80	— 19.132
	Massalia	53.0	7.0	21.0	36 7.00	4 30.868		
	Weisse XXIII, 1039	22.0	36.0	50.0	39 36.00	2 37.438	— 3 29.00	— 19.339
20	Massalia	21.8	36.0	50.8	7 49 36.20	4 43.100		
	Weisse XXIII, 1039	. .	38.0	52.0	53 38.21	1 51.568	— 4 2.01	— 34.512
	Massalia	46.9	2.0	15.8	56 1.57	4 43.052		
	Weisse XXIII, 1039	49.0	3.0	17.0	8 0 3.00	1 51.520	— 4 1.43	— 34.512
	Massalia	47.5	2.0	16.0	4 1.83	4 43.329		
	Weisse XXIII, 1039	49.0	3.0	17.9	8 3.30	1 51.465	— 4 1.47	— 34.844
	Massalia	3.1	17.0	31.0	9 17.03	4 43.292		
	Weisse XXIII, 1039	4.1	18.5	33.0	13 18.53	1 51.602	— 4 1.50	— 34.670
	Massalia	57.1	11.2	25.1	14 11.13	4 43.382		
	Weisse XXIII, 1039	58.5	13.0	27.0	18 12.83	1 51.600	— 4 1.70	— 34.762
	Massalia	37.1	51.0	5.0	20 51.03	4 43.456		
	Weisse XXIII, 1039	39.2	53.0	7.0	24 53.07	1 51.591	— 4 2.04	— 34.845
	Massalia	24.2	38.2	53.0	27 38.47	4 43.472		
	Weisse XXIII, 1039	27.0	41.0	55.2	31 41.07	1 51.630	— 4 2.60	— 34.822
21	Massalia	21.0	35.0	49.0	8 4 35.00	2 37.718		
	(* 59) W.	44.0	57.0	11.0	5 57.33	1 39.822	— 1 22.33	— 14.967
	Massalia	27.6	42.0	56.5	6 42.03	2 37.752		
	(* 59) W.	49.6	4.0	18.5	8 4.03	1 39.798	— 1 22.00	— 15.025
	Massalia	50.8	5.0	19.0	10 4.93	2 37.778		
	(* 59) W.	12.4	27.0	41.2	11 26.87	1 39.775	— 1 21.94	— 15.074

RESULTS.

Corr. Chron. — 0 m. 32.s 64

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1039,	23 50 32.24	— 0 56 49.00

Massalia—Weisse XXIII, 1039,

		Δa (m. s.)	Δδ (′ ″)
M. T.	9 4 18.30	— 3 27.93	— 4 51.07
	Δt	— .56	
	Δϱ	.00	— .14
	p	— .06	+ 3.29

Corr. Chron. — 0 m. 32.s 90

	a (h. m. s.)	δ (° ′ ″)
Weisse XXIII, 1039,	23 50 32.24	— 0 56 49.03

Massalia—Weisse XXIII, 1039,

		Δa (m. s.)	Δδ (′ ″)
M. T.	8 8 15.28	— 4 1.82	— 8 53.48
	Δt	— .66	
	Δϱ	.00	— .28
	p	— .12	+ 3.25

(Continued.)

MASSALIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 21	Massalia	30.0	44.1	59.0	8 13 44.37	2 37.920		
	(* 59) W.	51.6	7.0	21.0	15 6.87	1 39.749	— 1 22.50	— 15.242
	Massalia	53.5	7.4	22.0	16 7.63	2 37.888		
	(* 59) W.	16.0	30.0	44.0	17 30.00	1 39.842	— 1 22.37	— 15.117
	Massalia	1.9	16.0	29.6	18 15.83	2 37.946		
	(* 59) W.	24.0	38.0	53.1	19 38.37	1 39.780	— 1 22.54	— 15.237
	Massalia	6.1	19.5	34.0	20 19.87	2 37.872		
	(* 59) W.	28.0	42.0	57.2	21 42.40	1 39.861	— 1 22.53	— 15.082
	Massalia	19.6	34.1	48.1	22 33.93	2 37.829		
	(* 59) W.	42.0	57.0	11.0	23 56.66	1 39.672	— 1 22.73	— 15.228
23	Massalia	42.5	57.0	10.8	7 25 56.77	5 39.471		
	(* 59) W.	6.5	21.0	35.5	28 21.00	2 38.035	— 2 24.23	— 44.490
	Massalia	40.8	53.5	8.0	32 54.10	5 39.507		
	(* 59) W.	4.6	19.0	33.2	35 18.93	2 37.870	— 2 24.83	— 44.691
	Massalia	25.8	40.0	54.6	36 40.13	5 39.503		
	(* 59) W.	50.0	4.0	19.0	39 4.33	2 37.805	— 2 24.20	— 44.752
	Massalia	46.0	0.0	15.0	40 0.37	5 39.441		
	(* 59) W.	10.7	25.1	39.2	42 25.00	2 37.811	— 2 24.63	— 44.684
	Massalia	59.3	13.2	28.0	43 13.50	5 39.561		
	(* 59) W.	23.6	38.0	52.2	45 37.93	2 37.891	— 2 24.43	— 44.724
	Massalia	9.7	23.7	38.0	46 23.80	5 39.538		
	(* 59) W.	34.0	48.2	2.7	48 48.30	2 37.859	— 2 24.50	— 44.733
	Massalia	27.1	41.0	55.2	49 41.10	5 39.652		
	(* 59) W.	51.4	5.0	20.2	52 5.53	2 37.902	— 2 24.43	— 44.804
	Massalia	39.2	54.0	8.0	52 53.73	5 39.618		
	(* 59) W.	4.5	19.0	33 0	55 18.83	2 37.895	— 2 25.10	— 44.777
	Massalia	0.9	14.0	29.0	56 14.63	5 39.625		
	(* 59) W.	25.1	39.0	54.0	58 39.37	2 38.041	— 2 24.74	— 44.638
	Massalia	29.2	43.2	57.5	59 43.30	5 39.758		
	(* 59) W.	54.0	8.2	22.5	8 2 8.23	2 37.932	— 2 24.93	— 44.880
24	Massalia	39.7	54.0	8.3	8 16 54.00	5 33.161		
	(* 59) W.	34.1	48.0	2.6	19 48.23	1 34.330	— 2 54.23	— 58.956
	Massalia	40.2	54.0	8.3	21 54.16	5 33 131		
	(* 59) W.	34.6	49.1	3.0	24 48.90	1 34.348	— 2 54.74	— 58.908
	Massalia	30.2	44.1	58.5	25 44.27	5 33 240		
	(* 59) W.	24.1	38.6	53.0	28 38.57	1 34.305	— 2 54.30	— 59.060
	Massalia	15.5	29.0	43.5	29 29.33	5 33.202		
	(* 59) W.	9.6	23.8	38.0	32 23.80	1 34.371	— 2 54.47	— 58.956
	Massalia	58.6	13.0	27.6	33 13.07	5 33.278		
	(* 59) W.	53.2	7.0	21.5	36 7.23	1 34.422	— 2 54.16	— 58.981
	Massalia	43.2	57.1	11.9	36 57.40	5 33 411		
	(* 59) W.	38.2	52.0	6.0	39 52.07	1 34.328	— 2 54.67	— 59.208

RESULTS.

Oct. 21

Corr. Chron. — 0 m. s. 32.46

	α	δ
(* 59) W.,	h. m. s. 23 47 18.84	— 1° 5′ 58″.00

Massalia—(* 59) W.,

		Δα	Δδ
M. T.	h. m. s. 8 13 30.48	m. s. — 1 22.37	′ ″ — 3 52.42
	Δt	— .22	
	Δϱ	.00	— .12
	p	— .10	+ 3.24

23

Corr. Chron. — 0 m. s. 33.72

	α	δ
(* 59) W.,	h. m. s. 23 47 18.88	— 1° 5′ 58″.05

Massalia—(* 59) W.,

		Δα	Δδ
M. T.	h. m s. 7 43 48.42	m. s. — 2 24.60	′ ″ —11 27.28
	Δt	— .40	
	Δϱ	+ .01	— .37
	p	— .12	+ 3.22

24

Corr. Chron. — 0 m. s. 34.70

	α	δ
(* 59) W.,	h. m. s. 23 47 18.89	— 1° 5′ 58″.08

Massalia—(* 59) W.,

		Δα	Δδ
M. T.	h. m. s. 8 26 47.34	m. s. — 2 54.43	′ ″ —15 6.98
	Δt	— .48	
	Δϱ	.00	— .45
	p	— .07	+ 3.21

MASSALIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.		PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.		revs.	m. s.	revs.
Oct. 25	Weisse XXIII, 817	31.0	45.0	59.2	7 47 45.07	5	31.860	+ 3 47.66	+ 40.320
	Massalia	18.2	33.0	47.0	51 32.73	2	34.594		
	Weisse XXIII, 817	50.7	5.0	19.4	53 5.03	5	31.721	+ 3 47.14	+ 40.345
	Massalia	38.0	52.5	6.0	56 52.17	2	34.430		
	Weisse XXIII, 817	29.1	44.2	58.5	58 43.93	5	31.705	+ 3 47.07	+ 40.268
	Massalia	17.0	31.0	45.0	8 2 31.00	2	34.491		
	Weisse XXIII, 817	10.2	24.0	38.2	3 24.13	5	31.710	+ 3 47.00	+ 40.232
	Massalia	57.0	11.2	25.2	7 11.13	2	34.532		
	Weisse XXIII, 817	39.7	54.2	8.2	7 54.03	5	31.731	+ 3 47.10	+ 40.255
	Massalia	27.0	41.0	55.4	11 41.13	2	34.530		
	Weisse XXIII, 817	11 0	25.3	39.6	12 25.30	5	31.642	+ 3 46.70	+ 40.086
	Massalia	58.0	12.0	26.0	16 12.00	2	34.610		
Nov. 7	Weisse XXIII, 817	12.2	26.2	. .	8 4 26.14	1	38.878	+ 0 28.06	— 65.122
	Massalia	40.0	54.1	8.5	4 54.20	5	43.875		
	Weisse XXIII, 830	. .	. .	11.0	4 56.82	1	41.729	— 0 2.62	— 62 271
	Weisse XXIII, 817	2.1	16.0	. .	7 15.94	1	38.939	+ 0 27.73	— 65.264
	Massalia	29.1	44.0	58.0	7 43.67	5	44.078		
	Weisse XXIII, 830	.	47.0	1.2	7 46.94	1	41.950	— 0 3.27	— 62.253
	Weisse XXIII, 817	26.1	40.2	. .	10 40.14	1	38.865	+ 0 26.86	— 65.360
	Massalia	53.0	7.0	21.0	11 7.00	5	44.100		
	Weisse XXIII, 830	. .	.	24.0	11 9.82	1	41.911	— 0 2.82	— 62.314
	Weisse XXIII, 817	48.8	3.1	. .	15 3.04	1	38.882	+ 0 27.96	— 65.281
	Massalia	17.0	31.0	45.0	15 31.00	5	44.038		
	Weisse XXIII, 830	. .	. .	48.2	15 34.00	1	41.832	— 0 3.00	— 62.331
	Weisse XXIII, 817	50.2	4.1	. .	18 4.04	1	38.819	+ 0 28.63	— 65.326
	Massalia	18.5	32.5	47.0	18 32 67	5	44.020		
	Weisse XXIII, 830	21.2	. .	49.5	18 35.35	1	41.662	— 0 2.68	— 62.483
9	Weisse XXIII, 817	17.2	31.2	.	7 30 31.28	1	35.021	+ 0 22.75	— 70.124
	Massalia	39.1	54.0	9.0	30 54.03	5	45.020		
	Weisse XXIII, 817	30.0	44.0	.	33 44 08	1	35.001	+ 0 22.59	— 70.143
	Massalia	52 0	7.0	21.0	34 6.67	5	45.019		
	Weisse XXIII, 817	39.2	53.0	. .	34 53.08	1	34.858	+ 0 22.08	— 70.428
	Massalia	1.2	15.0	29.3	35 15.16	5	45.161		
	Weisse XXIII, 817	17.3	31.0	. .	36 31.08	1	34.955	+ 0 22.20	— 70.202
	Massalia	. .	53.2	8.2	36 53.28	5	45.032		
	Weisse XXIII, 817	11.5	25.0	.	38 25.08	1	35.062	+ 0 22.95	— 69.831
	Massalia	33.4	48.0	2.7	38 48.03	5	44.768		
	Weisse XXIII, 817	48.2	2.5	. .	40 2.58	1	34.910	+ 0 22.49	— 70.114
	Massalia	11.0	25.0	39.2	40 25.07	5	44.899		
	Weisse XXIII, 817	43.2	58.1	. .	41 58.18	1	35.022	+ 0 22.65	— 70.163
	Massalia	6.0	21.0	35.5	42 20.83	5	45.060		
	Weisse XXIII, 817	12.3	27.0	. .	51 27.08	1	34.902	+ 0 22.15	— 70.203
	Massalia	35.0	49.0	3.7	51 49.23	5	44.980		
	Weisse XXIII, 817	56.5	11.0	.	53 11.08	1	35.049	+ 0 22.32	— 70.126
	Massalia	19.2	33.0	48.0	53 33.40	5	45.050		
	Weisse XXIII, 817	19.0	34.0	. .	54 34.08	1	34.772	+ 0 22.15	— 70.355
	Massalia	42.0	56.2	10.5	54 56.23	5	45.002		

RESULTS.

Oct. 25

Corr. Chron. — 0 m. s. 35.30

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 817,	23 40 9.00	— 1 34 45.23

Massalia—Weisse XXIII, 817,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 3 44.73	+ 3 47.11	+10 18.64
	Δt +	.62	
	Δϱ	.00	+ .31
	p —	.09	+ 3.21

Nov. 7

Corr. Chron. — 0 m. s. 41.40

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 817,	23 40 8.91	— 1 34 45.74
Weisse XXIII, 830,	23 40 38.86	— 1 35 32.82

Massalia—Weisse XXIII, 817,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 10 52.31	+ 0 27.85	—16 43.18
	Δt +	.08	
	Δϱ	.00	— .48
	p —	.02	+ 3.06

Massalia—Weisse XXIII, 830,

		Δα	Δδ
	h. m. s.	m. s.	′ ″
M. T.	8 10 52.31	— 0 2.88	—15 57.98
	Δt —	.01	
	Δϱ	.00	— .46
	p —	.02	+ 3.06

9

Corr. Chron. — 0 m. s. 41.10

	α	δ
	h. m. s.	° ′ ″
Weisse XXIII, 817	23 44 8.88	— 1 34 45.85

Massalia—Weisse XXIII, 817,

		Δα	Δδ
	h. m. s.	m s.	′ ″
M. T.	7 43 51.22	+ 0 22.42	—17 58.61
	Δt +	.06	
	Δϱ	.00	— .52
	p —	.04	+ 3.02

(Continued.)

MASSALIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h m. s.	revs.	m. s.	revs.
Nov. 9	Weisse XXIII, 817	27.1	41.0		7 56 41.08	1 34.902	+ 0 22.49	— 70.172
	Massalia	49.2	3.5	18.0	57 3.57	5 44.949		
	Weisse XXIII, 817	45.0	0.0		58 0.08	1 34.810	+ 0 22.25	— 70.275
	Massalia	8.0	22.0	37.0	58 22.33	5 44.960		
Dec. 1	Weisse XXIII, 916	19.2	33.0	47.2	6 45 33.13	5 46.050	+ 2 4.87	+ 79.980
	Massalia		38.0	52.7	47 38.00	1 26.195		
	Weisse XXIII, 916	42.4	56.5	11.0	50 56.63	5 51.410	+ 2 5.20	+ 80.096
	Massalia	48.0	1.5	16.0	53 1.83	1 31.439		
	Weisse XXIII, 916	56.1	10.4	24.0	54 10.16	5 51.445	+ 2 5.54	+ 80.179
	Massalia	2.0	16.0	29.1	56 15.70	1 31.391		
	Weisse XXIII, 916	37.1	51.5	5.0	57 51.20	5 51.265	+ 2 4.70	+ 80.005
	Massalia		56.0		59 55.90	1 31.385		
	Weisse XXIII, 916	39.1	53.1	7.5	7 4 53.20	5 50.762	+ 2 5.17	+ 80.115
	Massalia	44.6	58.0	12.5	6 58.37	1 30.772		
15	Massalia	10.5	24.2	38.5	7 5 24.40	3 43.222		
	Weisse XXIII, 1267	38.0	52.0	6.2	8 52.07	2 37.912	— 3 27.67	— 18.303
	Massalia	15.2	29.2	43.3	10 29.30	3 43.210		
	Weisse XXIII, 1267	42.7	57.0	11.2	13 56.97	2 37.922	— 3 27.67	— 18.281
	Massalia	55.1	9.2	24.0	15 9.43	3 43.105		
	Weisse XXIII, 1267		36.0	51.0	18 36.19	2 37.912	— 3 26.76	— 18.186
	Massalia	44.2	58.5	12.9	19 58.87	3 42.962		
	Weisse XXIII, 1267	11.2	25.0	39.7	23 25.30	2 37.825	— 3 26.43	— 18.130
	Massalia	31.8	46.1	59.5	25 45.80	3 42.778		
	Weisse XXIII, 1267	58.0	12.0	27.0	29 12.33	2 37.900	— 3 26.53	— 17.871
	Massalia	31.0	45.1	59.0	31 45.03	3 42.792		
	Weisse XXIII, 1267	57.2	11.2	26.0	35 11.47	2 37.788	— 3 26.44	— 17.997
	Massalia	29.1	43.0	57.1	8 12 43.07	3 43.608		
	Weisse XXIII, 1267	54.1	7.9	22.0	16 8.00	2 39.208	— 3 24.93	— 17.393
	Massalia	54.2	8.2	22.1	18 8.17	3 43.578		
	Weisse XXIII, 1267	19.0	33.0	47.2	21 33.07	2 39.202	— 3 24.90	— 17.369
17	Massalia	44.1	58.1	12.0	6 38 58.07	3 32.051		
	Weisse XXIII, 1267	21.0	35.5	49.2	40 35.23	5 28.058	— 1 37.16	+ 26.068
	Massalia	29.7	44.0	57.8	41 43.83	3 31.983		
	Weisse XXIII, 1267	7.0	21.2	36.0	43 21.40	5 28.100	— 1 37.57	+ 26.178
	Massalia	57.5	11.6	26.0	44 11.70	3 31.880		
	Weisse XXIII, 1267	34.6	49.0	3.0	45 48.87	5 28.070	— 1 37.17	+ 26.251
	Massalia	24.1	38.0	53.1	46 38.40	3 31.862		
	Weisse XXIII, 1267	1.7	16.0	30.0	48 15.90	5 28.010	— 1 37.50	+ 26.209
	Massalia	38.1	52.0	6.0	51 52.03	3 31.601		
	Weisse XXIII, 1267	15.0	29.0	43.0	53 29.00	5 27.990	— 1 36.97	+ 26.450
	Massalia	42.0	56.1	10.5	54 56.20	3 31.662		
	Weisse XXIII, 1267	19.0	33.0	47.0	56 33.00	5 27.979	— 1 36.80	+ 26.378

RESULTS.

Corr. Chron. — 0 m. s. 49.30

	α	δ
Weisse XXIII, 916,	h. m. s. 23 45 9.49	— 1° 37′ 39″.69

Massalia—Weisse XXIII, 916,

		△α	△δ
M. T.	h. m. s. 6 55 56.66	m. s. + 2 5.10	″ +20′ 30.72
	Δt	+ .34	
	Δϱ	.00	+ .59
	p	— .01	+ 3.09

Corr. Chron. — 0 m. s. 58.13

	α	δ
Weisse XXIII, 1267,	h. m. s. 0 1 19.39	— 0° 7′ 40″ 49

Massalia—Weisse XXIII, 1267,

		△α	△δ
M. T.	h. m. s. 7 31 27.38	m. s. — 3 26.42	″ — 4 35 74
	Δt	— .56	
	Δϱ	.00	— 13
	p	+ .07	+ 2 78

Corr. Chron. — 0 m. s. 58.41

	α	δ
Weisse XXIII, 1267,	h. m. s. 0 1 19.36	— 0° 7′ 40″.62

Massalia—Weisse XXIII, 1267,

		△α	△δ
M. T.	h. m. s. 6 48 46.63	m. s. — 1 37.03	′ ″ + 6 44 42
	Δt	— .27	
	Δϱ	.00	+ .19
	p	+ .04	+ 2.74

(Continued.)

MASSALIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 17	Massalia	27.5	41.6	55.5	6 57 41.53	3 31.451			
	Weisse XXIII, 1267	4.0	18.1	32.1	59 18.03	5 27.849	— 1 36.50	+ 26.459	
	Massalia	36.2	50.5	5.0	7 1 50.57	3 31.418			
	Weisse XXIII, 1267	13.1	26.9	41.5	3 27.17	5 27.871	— 1 36.60	+ 26.514	
18	Massalia	37.9	52.0	6.2	59 52.03	2 31.141			m. s.
	Weisse XXIII, 1267	14.2	28.2	43.2	8 0 28.03	5 38.918	— 0 36.00	+ 50.831	Corr. Chron. — 0 58.03
	Massalia	10.0	24.4	38.4	2 24.26	2 31.041			α δ
	Weisse XXIII, 1267	47.0	1.3	15.7	3 1.33	5 38.958	— 0 37.07	+ 50.971	h. m. s. ° ′ ″ Weisse XXIII, 1267, 0 1 19.34 — 0 7 40.69
	Massalia	3.0	17.7	31.2	4 17.30	2 30.979			Massalia—Weisse XXIII, 1267,
	Weisse XXIII, 1267	39.2	53.2	8.0	4 53.47	5 38.963	— 0 36.17	+ 51.038	△α △δ
	Massalia	8.1	22.0	36.0	6 22.03	2 30.872			h. m. s. m. s. ′ ″
	Weisse XXIII, 1267	.	58.5	13.0	6 58.47	5 38.871	— 0 36.44	+ 51.053	M. T. 8 4 12.01 — 0 36.51 +13 3.62
	Massalia	48.1	2.0	17.0	8 2.37	2 30.888			Δt — .10
	Weisse XXIII, 1267	25.0	39.0	53.2	8 39.07	5 38.830	— 0 36.70	+ 50.996	Δϱ + .01 + .40
	Massalia	48.0	2.2	16.5	10 2.23	2 30.891			p + .11 + 2.73
	Weisse XXIII, 1267	24.8	39.0	53.0	10 38.93	5 38.858	— 0 36.70	+ 51.021	

CALLIOPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1852.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 17	Calliope	41.0	- -	13.0	7 24 57.00	2 27.340		
	B. Z., 396, 104,	6.0	22.0	38.0	26 22.00	3 27.858	— 1 25.00	+ 13.511
	Calliope	10.2	- -	42.0	58 26.10	2 27.020		
	B. Z., 396, 104,	- -	52.0	9.0	59 52.00	3 27 608	— 1 25.90	+ 13.581
	Calliope	36.1	52.0	8.0	8 49 52.03	3 37.279		
	B. Z., 396, 104,	4.2	20.3	37.0	51 20.50	4 38.525	— 1 28.47	+ 14.162
	Calliope	53.0	9.0	25.1	53 9.03	3 37.320		
	B. Z., 396, 104,	22.5	38.0	54.2	54 38.23	4 38.487	— 1 29 20	+ 14.083
	Calliope	43.2	59.1	- -	59 59.10	3 37.382		
	B. Z., 396, 104,	12.5	28.0	44.5	9 1 28.33	4 38.588	— 1 29.23	+ 14.122
	Calliope	44.5	1.0	16.7	3 0.73	3 37.427		
	B. Z., 396, 104,	14.0	30.0	46.0	4 30.00	4 38.576	— 1 29.23	+ 14.065
	Calliope	39.5	56.0	12.0	5 55.83	3 37.349		
	B. Z., 396, 104,	9.0	25.5	41.6	7 25.37	4 38.712	— 1 29.54	+ 14.279
	Calliope	51.2	7.1	- -	10 7.10	3 37.348		
	B. Z., 396, 104,	21.0	36.7	52.7	11 36.80	4 38.672	— 1 29.70	+ 14.240
	Calliope	41.0	57.0	13.2	14 57.07	3 37.362		
	B. Z., 396, 104,	11.0	26.8	43.0	16 26.93	4 38.639	— 1 29.86	+ 14.193
	Calliope	2.0	18.0	33.5	18 17.83	3 37.350		
	B. Z., 396, 104,	31.9	48.0	4.0	19 47.97	4 38.650	— 1 30.14	+ 14.216
	Calliope	1.2	17.6	33.0	21 17.27	3 37.342		
	B. Z., 396, 104,	31.5	47.5	3.2	22 47.40	4 38.778	— 1 30.13	+ 14.352
	Calliope	2.6	18.5	33.6	25 18.23	3 37.342		
	B. Z., 396, 104,	33.1	48.5	3.0	26 48.20	4 38.688	— 1 29.97	+ 14.262
18	Calliope	23.2	39.2	53.7	8 36 38.70	2 38.581		
	B. Z., 396, 104,	-	7.0	23.0	39 7.00	4 38.878	— 2 28.30	+ 26.206
	Calliope	16.5	32.0	48.0	41 32.17	2 38.618		
	B. Z., 396, 104,	43.7	59.5	16.0	43 59.73	4 38.712	— 2 27.56	+ 26.003
	Calliope	55.0	10.9	26.7	45 10.87	2 38.450		
	B. Z., 396, 104,	- -	-	54.0	47 38.14	4 38.920	— 2 27.27	+ 26.379
	Calliope	11.2	27.2	43.0	56 27.13	2 38.508		
	B. Z., 396, 104,	39.0	55.0	11.0	58 55.00	4 38.838	— 2 27 87	+ 26.239
	Calliope	24.1	39.5	56.0	9 3 39.87	2 38.432		
	B. Z., 396, 104,	52.5	8.5	24.2	6 8.40	4 38.808	— 2 28.53	+ 26.285

RESULTS.

Corr. Chron. — 0 m. s. 57.10

	α	δ
B. Z., 396, 104,	h. m. s. 4 43 52.55	° ′ ″ +26 31 42.44

Calliope—B. Z., 396, 104,

		Δα	Δδ
M. T.	h. m. s. 7 40 44.45	m. s. — 1 25.45	′ ″ + 3 28.20
		Δt — .23	
		Δϱ .00	+ .07
		p — .22	+ 1.62

		Δα	Δδ
M. T.	h. m. s. 9 7 14.32	m. s. — 1 29.55	′ ″ + 3 38.20
		Δt — .24	
		Δϱ .00	+ .06
		p — .13	+ 1.24

Corr Chron. — 0 m. s. 56.80

	α	δ
B. Z, 396. 104,	h. m. s. 4 43 52.55	′ ° ′ ″ +26 31 42.48

Calliope—B. Z., 396, 104,

		Δα	Δδ
M. T.	h. m. s. 8 47 44.95	m. s. — 2 27.91	′ ″ + 6 43.02
		Δt — .40	
		Δϱ .00	+ .12
		p — .15	+ 1.34

OCCULTATIONS OF STARS BY THE MOON, 1851 AND 1852.

DATE.	OBJECT.	PHASE.	CHRONOMETER TIME.	CORRECTED CHRONOMETER.	CORRECTED TIME.	REMARKS.
1851.			h. m. s.	m. s.	h. m. s.	
January 14	B. A. C., 1625	Immersion	6 2 27.20	+0 14.53	6 2 42.7 Mean.	
March 11	γ Geminorum	"	6 21 11.10	+0 45.19	6 21 56.3 Mean.	
April 6	Lalande, 10035	"	10 30 35.20	+0 43.79	10 21 19.0 Mean.	
May 6	Lalande, 15595	"	11 25 27.76	+1 4.09	11 26 31.8 Sidereal.	
May 6	Lalande, 15646	"	12 3 41.13	+1 4.11	12 4 45.2 Sidereal.	
May 7	68 Cancri	"	13 11 39.61	+1 4.86	13 12 44.5 Sidereal.	
May 7	B. A. C. 7601	"	20 47 47.60	+1 5.03	20 48 52.6 Sidereal.	
1852.						
March 3	88 Cancri	Immersion	9 19 10.40	+0 6.00	9 19 16.4 Mean.	
April 2	γ Virginis	"	8 0 59.20	+0 0.79	8 1 0.0 Mean.	

ECLIPSE OF THE SUN, JULY 27, 1851.

	CHRONOMETER TIME.	CORRECTED CHRONOMETER.	CORRECTED TIME.	MEAN TIME.	REMARKS.
	h. m. s.	h. m.	h. m. s.	h. m. s.	
First contact	3 43 19.50	+0 31.43	3 43 50.93	19 21 32.77	
Second contact	5 12 39.53	+0 31.40	5 13 10.73	20 50 37.94	

MEAN RIGHT ASCENSIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE TRANSIT INSTRUMENT,

IN

1851.

α Andromedæ.

1851.		h. m. s.
November	7	0 0 38.49
	21	38.45
December	18	38.58

Weisse O, 4.

September	17	0 1 27.22

γ Pegasi.

September	17	0 5 30.93
November	7	30.98
	17	30.93
	21	30.85
	22	30.99
	26	30.93
	28	30.93
December	18	30.90

β Ceti.

October	27	0 36 3.29
November	7	3.32
	17	3.35
	22	3.56
	26	3.46
December	18	3.35

q^2 Ceti.

November	26	0 42 36.77

Polaris.

March	21	1 5 0.97
	25	5 5.98
May	6 S. P.	5 5.42
June	4 S. P.	4 59.69
	7 S. P.	4 58.74
	24 S. P.	4 56.49
October	27	4 58.92
November	4	5 2.14
	6 S. P.	4 59.87
	7	5 1.63
	17	5 3.56
	22	5 3.75
	26	5 (*11.19)

δ Ceti.

October	27	1 16 31.61
November	4	31.55
	17	31.54
December	18	31.60

α Arietis.

January	16	1 58 43.50
March	25	43.87
May	6	43.85
December	5	43.57
	10	43.56

Lalande, 4238.

November	11	2 9 27.85

Ceti (B. A. C., 708).

December	10	2 10 14.06

71 Ceti.

1851.		h. m. s.
December	10	2 17 23.70

ξ^2 Ceti.

December	5	2 20 11.33

Fomacis (B. A. C., 773).

December	10	2 23 4.31

ν Ceti.

December	5	2 28 0.40

Dec. + 10° 25′.

December	10	2 30 59.08

γ Ceti.

January	7	2 35 32.02
	16	31.88
December	5	31.95
	10	31.86

4 Eridani.

January	7	2 50 43.45

α Ceti.

January	7	2 54 26.61
	13	26.58
	16	26.56
July	27	26.52
December	10	26.48

α Eridani.

January	7	3 5 42.00
December	10	41.95

α Persei.

January	16	3 13 38.16
	23	38.19
July	27	38.29
December	10	38.20

o Tauri.

December	5	3 16 44.69

f Tauri.

December	5	3 22 35.78

21 Eridani.

December	10	3 31 36.98

η Tauri.

January	7	3 38 34.55
	23	34.48
July	27	34.55
December	10	34.57

τ^8 Eridani.

1851.		h. m. s.
January	7	3 47 19.81

γ^1 Eridani.

January	23	3 51 1.97
	24	2.05
December	10	2.01

ε Tauri.

January	13	4 19 51.77

α Tauri.

January	7	4 27 18.99
	13	19.04
	24	19.05
	31	19.02
February	6	19.01
	11	19.03
July	27	19.09
December	10	19.03

54 Eridani.

December	10	4 33 52.83

96 Tauri.

December	10	4 41 9.45

99 Tauri.

December	10	4 48 42.88

11 Orionis.

February	11	4 56 0.07
December	10	55 59.99

15 Orionis.

February	11	5 1 7.02

α Aurigæ.

February	6	5 5 36.86
July	27	36.94
August	25	36.95

β Orionis.

January	24	5 7 19.82
	31	19.94
February	11	19.86
	17	19.91
	22	19.87
December	10	19.93

β Tauri.

January	7	5 16 48.80
	24	48.72
	31	48.70
February	6	48.76
	17	48.90
	19	48.73

β Tauri—Continued.

1851.		h m. s.
February	22	5 16 48.76
	25	48.77
March	26	48.83
August	25	48.71
December	10	48.79

δ Orionis.

January	7	5 24 20.69
	24	20.66
	31	20.74
February	6	20.73
	17	20.76
	19	20.66
	22	20.70
	25	20.76
March	26	20.69
December	10	20.70

ε Orionis.

February	6	5 28 36.22
	17	36.25
	19	36.22
	22	36.22
	25	36.23
March	26	36.21
December	10	36.22

α Columbæ.

February	6	5 34 13.16
	22	13.16
	25	13.14
December	10	12.98

α Orionis.

January	7	5 47 3.17
	24	3.06
February	6	3.14
	18	3.12
	19	3.18
	22	3.12
	25	3.16
March	3	3.30
	26	3.13
December	10	3.03

μ Geminorum.

March	10	6 13 53.20
	11	53.11
	26	53.14
	28	53.18
December	10	53.08

ν Geminorum.

March	12	6 20 3.44

ξ^1 Canis Majoris.

December	10	6 25 36.37

α Canis Majoris.

January	7	6 38 32.32
	31	32.33
February	6	32.45

* Perhaps a mistake of 10′.

α Canis Majoris—Continued.

1851.		h. m. s.
February	17	6 38 32.24
	26	32.12
March	3	32.35
	10	32.22
	11	32.22
	12	32.30
	13	32.24
	25	32.24
	26	32.29
	28	32.22

37 Geminorum.

December	10	6 46 5.03

ε Canis Majoris.

January	24	6 52 43.90
February	26	43.66
March	3	43.80
	4	43.65
	10	43.91
	11	43.77
	12	43.76
	13	43.75
	25	43.66
	28	43.81
April	9	44.05
December	10	43.82

26 Canis Majoris.

March	3	7 6 4.04
	14	3.75
December	10	3.98

28 Canis Majoris.

March	11	7 8 43.48
	14	43.27

Oeltzen, S., 6470.

March	25	7 8 47.33

δ Geminorum.

February	18	7 11 9.59
	26	9.59
March	4	9.63
	10	9.63
	12	9.75
	14	9.57
	21	9.61
	28	9.61
April	9	9.59

29 Canis Majoris.

March	3	7 12 25.58
	25	25.50

30 Canis Majoris

March	11	7 12 29.17
December	10	29.31

α^2 Geminorum.

1851.		h. m. s.
February	17	7 25 1.32
	18	1.28
	26	1.38
March	3	1.24
	4	1.32
	11	1.36
	14	1.23
	21	1.35
	25	1.37
	28	1.23
April	9	1.15

68 Geminorum.

March	13	7 25 2.58

α Canis Minoris.

February	17	7 31 26.82
	18	26.77
	26	26.83
March	3	26.84
	4	26.86
	11	26.86
	13	26.85
	14	26.77
	21	26.81
	25	26.82
	28	26.80

β Geminorum.

February	17	7 36 7.75
	18	7.78
March	3	7.74
	4	7.85
	11	7.77
	13	7.78
	21	7.67
	24	7.66
	25	7.62
	28	7.78

ξ Argus.

December	10	7 42 59.10

Weisse VII, 1212.

February	26	7 45 47.59

Rumker (2390).

February	26	7 56 13.36

15 Argus.

March	14	8 1 9.13
	24	9.32
April	11	9.34

δ Cancri.

March	13	8 36 9.19
	14	9.22
April	9	9.24

ε Hydræ.

1851.		h. m. s.
February	26	8 38 49.73
March	20	49.71
April	18	49.73

ι Ursæ Majoris.

March	20	8 48 54.91
April	22	54.57

α Cancri.

March	13	8 50 16.70
	14	16.72

Weisse 2, IX, 305.

March	8	9 14 50.40

α Hydræ.

March	8	9 20 12.87
	20	13 00
April	18	13.02
	22	13.00

Weisse 2, IX, 486.

February	26	9 22 52.13
March	3	52.34

Weisse 2, IX, 618.

February	26	9 28 59.24

ε Leonis.

February	22	9 37 19.70
	26	19.74
March	3	19.70
	8	19.62
	14	19.72
	20	19.78
April	18	19.62
	22	19.59

α Leonis.

March	8	10 0 22.77
May	7	22.82

γ Leonis.

March	14	10 11 41.69

α Ursæ Majoris.

April	11	10 54 25.35
	23	25.22
May	7	25.41

δ Leonis.

April	11	11 6 7.33
	23	7.36
May	6	7.27
	7	7.55

δ Hydræ et Crat.

1851.		h. m. s.
April	11	11 11 50.65
	23	50.68
May	6	50.62

Hydræ (B. A. C., 3969).

April	23	11 34 15.10

β Leonis.

May	6	11 41 24.13
	26	24.24

δ Ursæ Majoris.

May	6	11 45 54.76
	26	54.97

β Corvi.

May	26	12 26 30.91
June	7	30.80

γ Virginis.

June	7	12 34 3.55

δ Virginis.

June	7	12 48 2.83

12 Canum Venat.

June	14	12 48 59.94

α Virginis.

May	26	13 17 17.71
	31	17.70
June	4	17.75
	7	17.74
	9	17.66
	14	17.59
	19	17.74
	24	17.69
	25	17.74
November	6	17.76

ζ Virginis.

June	9	13 27 3.05

η Ursæ Majoris.

June	4	13 41 37.44
	7	37.57
	9	37.51
	14	37.34
	19	37.42
	21	37.45
	25	37.56

η Bootis.

May	26	13 47 32.47
June	4	32.50
	7	32.54

η Bootis—Continued.

1851.		h. m. s.
June	9	13 47 32.44
	14	32.42
	19	32.49
	21	32.47
	24	32.48
November	6	32.52

Hydræ (B. A. C., 4711).

June	19	14 4 39.36

α Bootis.

May	26	14 8 49.23
	31	49.23
June	18	49.26
	19	49.22
	20	49.21
	21	49.20
	24	49.22
	25	49.25
November	6	49.01
	10	49.27

λ Virginis.

June	9	14 10 59.89

Oeltzen, S., 13643.

June	9	14 19 23.90

4 Libræ.

June	4	14 34 33.87

ε Bootis.

June	4	14 38 26.17
	9	26.17
	14	26.13
	18	26.13
	19	26.11
	20	26.12
	24	26.19
	28	25.89
July	2	25.96
	5	26.12
November	10	26.04

α^2 Libræ.

June	4	14 42 35.24
	9	35.16
	14	35.23
	18	35.29
	19	35.27
	20	35.25
	21	35.25
	24	35.17
	25	35.19
	28	34.99
July	2	35.11

β Ursæ Minoris.

June	18	14 51 11.78
	19	11.81
	20	11.67
	21	11.86
	24	12.05
	28	11.89
July	2	11.76
	5	11.75

60 Hydræ.

1851.		h. m. s.
June	9	14 53 10.51

Weisse XV, 87.

July	5	15 5 51.77

β Libræ.

June	9	15 8 56.37
	14	56.52
	18	56.39
	20	56.46
	21	56.43
	24	56.41
July	5	56.47
	17	56.49

α Coronæ Borealis.

June	9	15 28 20.26
	14	20.23
	18	20.19
	20	20.27
	21	20.28
	24	20.34
	28	20.36
July	12	20.27
	17	20.35

Libræ (B. A.C., 5184).

July	2	15 34 20.28

α Serpentis.

June	9	15 36 52.88
	20	52.90
July	12	52.86
	17	52.95
	28	52.90

Weisse XV, 845.

June	14	15 43 34.32
	18	34.06

Weisse XV, 864.

July	5	15 44 53.14

Anonymous, Dec. — 14° 12′.

June	18	15 43 45.19

ζ Ursæ Minoris.

June	9	15 49 31.87
	20	31.46
	28	31.08
July	12	31.79
	17	32.04
	28	31.27

β^1 Scorpii.

June	17	15 56 43.28
	18	43.22
	20	43.28
July	2	43.30
	5	43.27
	17	43.20

c^1 Scorpii.

1851.		h. m. s.
June	18	16 3 0.26

δ Ophiuchi.

June	9	16 6 29.33
	17	29.35
	18	29.26
	20	29.30
	28	29.61
July	2	29.41
	5	29.28
	12	29.23
	17	29.26
	28	29.29
August	6	29.25

χ Ophiuchi.

August	6	16 18 20.11

α Scorpii.

June	9	16 20 12.94
July	5	12.94
	17	12.81
	28	12.97
November	21	13.20

η Draconis.

June	18	16 21 57.97
July	2	58.41

φ Ophiuchi.

August	6	16 22 33.46

ε Scorpii.

June	18	16 40 27.27

Anonymous, Dec. — 26° 22′.

July	17	17 8 13.82

Weisse 2, XVII, 242.

August	6	17 8 52.26

b Ophiuchi.

August	6	17 17 12.78

α Ophiuchi.

July	17	17 27 58.16
August	6	58.32
	14	58.30
	15	58.27
	27	58.26
	28	58.30
	30	58.27

84 Herculis.

August	30	17 37 12.23

γ Ophiuchi.

1851.		h. m. s.
August	15	17 40 22.29
	28	22.34

87 Herculis.

August	27	17 42 44.18
	30	44.22

Serpentis (B. A. C., 6065).

August	15	17 47 41.39
	30	41.33

γ Draconis.

August	14	17 53 7.33
	27	7.43
	28	7.43
September	4	7.40

72 Ophiuchi.

September	1	18 0 14.35

μ^1 Sagittarii.

August	2	18 4 47.52
	14	47.51
	15	47.48
	26	47.57
	29	47.47
	30	47.49
September	1	47.54
	4	47.41

Anonymous, Dec. — 23° 38′.

September	9	18 8 40.60

Anonymous, Dec. — 23° 38′.

September	9	18 9 10.11

Anonymous, Dec. — 23° 38′.

September	9	18 9 57.76

Anonymous, Dec. — 23° 38′.

September	9	18 10 40.08

Anonymous, Dec. — 23° 38′.

September	9	18 11 8.87

Anonymous, Dec. — 23° 38′.

September	9	18 10 47.36

Anonymous, Dec. — 23° 38′.

September	9	18 12 51.57

Anonymous, Dec. — 23° 38′.

September	9	18 12 52.59

Anonymous, Dec. — 23° 38′.

1851.		h. m. s.
September	9	18 13 20.55

δ Sagittarii.

August	30	18 11 23.40

δ Ursæ Minoris.

January	7	S. P.	18 20 42.06
	23	S. P.	43.97
	24	S. P.	43.53
	31	S. P.	44.24
February	6	S. P.	43.87
	22	S. P.	42.07
	25	S. P.	43.06
August	27		43.60
	30		43.40
September	1		42.49

λ Sagittarii.

September	4	18 18 42.85

α Lyræ.

January	14	18 31 51.52
July	28	51.56
August	2	51.44
	15	51.51
	26	51.47
	29	51.45
	30	51.54
September	1	51.49
	3	51.49
	4	51.52
November	26	51.62

28 Sagittarii.

August	30	18 37 17.67

β Lyræ.

August	2	18 44 32.48
	15	32.55
	29	32.57
	30	32.51
September	1	32.46
	3	32.48
	9	32.59

ο Sagittarii.

September	4	18 55 41.54

τ Sagittarii.

August	30	18 57 34.21

ζ Aquilæ.

August	2	18 58 30.93
September	1	30.90
	3	30.88

π Sagittarii.

September	4	19 0 50.46

26 Aquilæ.

1851.		h. m. s.
September	12	19 12 32.33

δ Aquilæ.

September	3	19 17 56.02
	9	56.00
	12	56.00
	15	56.04
	19	55.93

α Vulpeculæ.

September	15	19 22 27.77

γ Aquilæ.

September	4	19 39 7.70
	9	7.60
	12	7.60
	15	7.66
	16	7.64
	24	7.61

α Aquilæ.

September	4	19 43 27.83
	9	27.74
	12	27.78
	15	27.76
	16	27.78
	17	27.74
	24	27.75
November	26	27.84

β Aquilæ.

September	4	19 47 56.70
	9	56.56
	12	56.63
	15	56.58
	16	56.61
	17	56.61
	24	56.60

θ Aquilæ.

September	25	20 3 33.70

α^2 Capricorni.

September	16	20 9 43.59
	17	43.65
	24	43.68
	25	43.60
October	6	43.63

39 Cygni.

September	25	20 17 51.99

69 Aquilæ.

October	6	20 21 48.44

ε Delphini.

September	25	20 26 2.69

ζ Delphini.

1851.		h. m. s.
October	6	20 28 54.74

α Cygni.

September	16	20 36 19.39
October	6	19.19
	10	19.09

3 Aquarii.

September	25	20 39 49.04

B. A. C., 7255.

October	16	20 48 9.87

4 Equulei.

October	16	20 58 0.57

ι Cygni.

October	8	21 6 33.16
	16	33.18

α Cephei.

October	16	21 14 59.66
	31	59.54

Anonymous, Dec. — 34° 26′.

October	16	21 23 9.16
	27	9.13

β Aquarii.

November	1	21 23 39.58
	17	39.50

ε Pegasi

October	6	21 36 49.03
	8	49.03
	16	49.02
November	1	49.02
	7	49.15
	17	49.13
December	16	49.05

16 Pegasi.

November	7	21 46 14.33

28 Aquarii.

October	6	21 53 24.39

α Aquarii.

September	17	21 58 4.61
October	6	4.65
	16	4.62
	31	4.59
November	22	4.68
	26	4.60
December	16	4.71

α Gruis.

1851.		h. m. s.
November	17	21 58 45.20

15 Piscis Australis.

September	17	22 1 20.46
October	6	20.57

Pegasi (B. A. C., 7742).

October	8	22 4 36.77
	16	36.72

λ Piscis Australis.

September	17	22 5 47.95

θ Aquarii.

October	6	22 8 54.85

44 Aquarii.

October	8	22 9 16.51

ρ Aquarii.

October	16	22 12 18.14

47 Aquarii.

October	31	22 13 19.68

31 Pegasi.

October	8	22 14 8.09
November	26	8.01

60 Aquarii.

October	27	22 26 18.77
November	26	18.72

κ Aquarii.

November	11	22 29 59.23

ζ Pegasi.

November	6	22 33 58.97
	22	58.75
December	16	58.86

19 Piscis Australis.

September	17	22 34 0.76
November	26	0.72

τ^2 Aquarii.

October	6	22 41 38.81
	16	38.65

μ Pegasi.

October	8	22 42 46.08

σ Pegasi.

1851.		h. m. s.
November	11	22 44 48.09

α Piscis Australis.

September	17	22 49 20.94
October	8	21.00
	10	21.01
November	11	21.03
	17	21.00
	21	21.00
	28	20.91
December	16	21.00

3 Piscium.

October	6	22 52 56.36

α Pegasi.

March	20	22 57 17.57
September	17	17.50
October	6	17.46
	8	17.49
	10	17.46
November	11	17.43
	17	17.49
	21	17.45
	22	17.36
	26	17.35
	28	17.48
December	1	17.51
	16	17.43

57 Pegasi.

October	10	23 1 57.27

φ Aquarii.

1851.		h. m. s.
October	6	23 6 33.12
December	1	33.04

χ Aquarii.

October	10	23 9 4.33

61 Pegasi.

November	7	23 8 27.20

ψ^3 Aquarii.

October	6	23 11 9.42
	27	9.23
December	1	9.34

τ Pegasi.

November	21	23 13 13.04

b Piscium.

November	22	23 12 42.13

Pegasi (B. A. C., 8146).

October	10	23 15 12.67

66 Pegasi.

1851.		h. m. s.
November	7	23 15 30.86

9 Piscium.

October	10	23 19 33.74

Aquarii (B. A. C., 8196).

October	10	23 23 56.79
November	28	56 69

15 Piscium.

November	7	23 27.48.51

2^2 Piscium.

October	6	23 32 14.22

2 Piscium.

September	17	23 32 14.18
October	10	14.13
	16	14.16
November	11	14.15
	17	14.18
	22	14.05
	26	14.02
	28	14.24

2 Piscium.

1851.		h. m. s.
December	1	23 32 14.13
	5	14.12
	18	14.12

19 Piscium.

October	6	23 38 43.71

Piscium (B. A. C., 8311).

November	26	23 47 5.87
December	18	5.99

26 Piscium.

November	21	23 47 27.35
	22	27.36

27 Piscium.

December	1	23 50 59.53

29 Piscium.

December	18	23 54 8.19

c^2 Piscium.

November	22	23 54 49.94
	26	49.80

33 Piscium.

December	1	23 57 39.33

MEAN RIGHT ASCENSIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE TRANSIT INSTRUMENT,

IN

1852.

α Andromedæ.

1852.		h. m. s
February	8	0 0 38.43
April	28	38.53
December	8	38.43

γ Pegasi.

April	28	0 5 31.01
May	2	30.96
December	8	30.91

β Ceti.

December	8	0 36 3.52

Polaris.

April	1	0 4 60.87
	26	62.49
	27	58.68
	28	58.53
May	2	60.56
	3 S. P.	61.57
	4	60.28
	5	60.01
	5 S. P.	60.49
	6	60.72
	7 S. P.	65.31
	13 S. P.	61.16
	16*	70.03

θ¹ Ceti.

December	8	1 16 31.53

α Arietis.

February	9	1 58 43.62
May	6	43.45
	20	43.66
December	8	43.61

γ Ceti.

January	27	2 35 32.01
February	9	31.99
December	8	31.91

α Ceti.

January	27	2 54 26.54
February	9	26.53

α Persei.

January	27	3 13 37.46
February	9	37.96
May	1	38.26
	3	38.06
	5	38.29
	7	38.17
	20	38.35

66 Arietis.

January	27	3 19 41.05

9 Tauri.

January	27	3 28 9.39

η Tauri.

1852.		h. m. s.
January	27	3 38 34.45
February	9	34.51

γ¹ Eridani.

January	27	3 51 1.94
February	9	2.13

α Tauri.

January	24	4 27 18.99
February	3	19.02
	19	19.00
April	23	18.74
May	1	19.00
	3	19.05
	5	19.06
	7	18.99
June	16	19.08
	18	19.12
	20	19.13

101 Tauri.

February	19	4 51 7.97

1 Leporis.

February	3	4 56 25.14

β Eridani.

February	19	5 0 28.76

α Aurigæ.

May	7	5 5 36.77

B. A. C., 1618.

January	24	5 6 20.58

β Orionis.

January	24	5 7 19.90
February	3	19.85
	25	19.87
March	3	19.73
May	1	19.80
	3	19.91
	5	19.90
June	5	19.93
	18	19.75
	20	19.77

β Tauri.

February	3	5 16 48.78
	25	48.68
March	3	48.66
April	27	48.69
May	1	48.71
	3	48.79
	5	48.69
	21	48.76

δ Orionis.

1852.		h. m. s.
February	3	5 24 20.60
	19	20.78
	25	20.63
May	3	20.74
	7	20.72
June	5	20.98

ε Orionis.

February	3	5 28 36.24
	19	36.23
	25	36.30
March	3	36.25
May	1	36.22
	3	36.23
	5	36.25
	7	36.23
	21	36.24
June	5	36.76

α Columbæ.

February	3	5 34 13.21
	25	13.35

α Orionis.

February	3	5 47 3.08
	14	3.05
	19	3.10
	25	3.12
March	3	3.87
May	3	3.08
	5	3.15
	7	3.07
June	5	3.00

μ Geminorum.

February	3	6 13 53.15
March	3	53.10

α Canis Majoris.

February	3	6 38 32.31
March	1	32.24
	2	32.16
May	21	32.34
June	5	32.43
	17	32.23
	25	32.27

ε Canis Majoris.

February	3	6 52 43.85
	14	43.90
March	1	43.96
	3	43.92
May	21	43.80

δ Geminorum.

February	3	7 11 9.64
March	3	9.56

α² Geminorum.

February	3	7 25 1.31
March	2	1.21
	10	1.32

α Canis Minoris.

1852.		h. m. s.
March	2	7 31 26.97
	10	27.27
June	1	27.73
	17	26.90
	21	26.67
	25	26.86

(* 25) W.

March	3	7 32 50.87

β Geminorum.

February	3	7 36 7.78
June	1	7.66
	10	7.82
	17	7.78
	25	7.75

15 Argus.

February	3	8 1 9.48
March	3	9.44
	10	9.34
	18	9.39

δ Cancri.

March	3	8 36 9.41

Anonymous, Dec. — 6° 50′.

April	15	8 37 3.32

ε Hydræ.

April	2	8 38 49.71
	9	49.67
	15	49.62

12 Hydræ.

March	18	8 39 17.06

2 Ursæ Majoris.

April	9	8 48 54.65
	15	54.53

α Cancri.

March	3	8 50 17.23

ξ Cancri.

April	15	9 0 43.47

π Cancri.

April	15	9 6 56.52

α Hydræ.

April	2	9 20 12.86
	9	12.98
	15	12.87

* Probably a misreading of 10ʰ.

ξ Leonis.

1852.		h. m. s.
March	3	9 23 51.61

o Leonis.

March	3	9 33 8.42

ε Leonis.

April	2	9 37 19.72

α Leonis.

April	2	10 0 22.75

α Ursæ Majoris.

April	23	10 54 25.15

χ^1 Hydræ.

April	13	10 58 6.41

χ^2 Hydræ.

April	13	10 58 41.39

δ Leonis.

April	13	11 6 7.40
	23	7.35
May	3	7.32
	5	7.31
	7	7.41

δ Hydræ et Crateris.

April	13	11 11 50.66
	23	50.76
May	3	50.62
	5	50.61
	7	50.74

80 Leonis.

April	23	11 18 9.44

B. A. C., 3925.

April	23	11 25 10 34

B. A. C., 3969.

May	7	11 34 15.10

B. A. C., 3975.

May	5	11 36 15.54
	13	15.51

β Leonis.

April	23	11 41 24.23
May	3	24.23
	5	24.28
	7	24.22
	13	24.10
	25	24.26

γ Ursæ Majoris.

1852.		h. m. s.
May	5	11 45 54.74
	7	54.77
	13	55.07

12 Virginis.

May	13	12 5 47.48
	25	47.56

10 Comæ.

May	13	12 12 17.53

6 Corvi.

May	25	12 15 33.14

B. A. C., 4200.

May	13	12 20 9.92
	25	10.05

β Corvi.

April	23	12 26 30.92
May	13	31.04
	20	30.80
	25	30.94

B. A. C., 4278.

April	23	12 36 1.49

B. A. C., 4294.

May	13	12 39 48.40

B. A. C., 4312.

April	23	12 43 35.09

12 Canum Venaticorum.

April	23	12 49 0.17
May	13	0.25
	25	0.05
October	10	0.11

α Virginis.

April	23	13 17 17 85
May	4	17.82
	6	17.77
	13	17.78

η Ursæ Majoris.

May	5	13 41 37.33
	6	37.31
	13	37.28

η Bootis.

April	15	13 47 32.38
May	5	32.41
	6	32.49
	13	32.43

α Bootis.

1852.		h. m. s.
April	15	14 8 49.16
	23	49.27
May	13	49.96
June	5	49.20
	9	49.23
October	20	49.06
November	22	49.35

104 Virginis.

June	5	14 19 32.26

ϱ Bootis.

June	5	14 25 21.76

ε Bootis.

May	24	14 38 26.12
June	5	26.08
	9	26.07
November	22	26.12

α^1 Libræ.

June	5	14 42 23.80
	9	23.85
	25	24.00

α^2 Libræ.

May	24	14 42 35.27
June	5	35.30
	9	35.26
	25	35.22
	26	35.25

β Bootis.

June	9	14 56 17.63

46 *b* Bootis.

June	9	15 1 55.30

t' Libræ.

June	5	15 3 40.73

β Libræ.

April	15	15 8 56.62
June	5	56.37
	9	56.41
	26	56.44

7 Serpentis

June	5	15 15 17.04

10 Serpentis.

June	5	15 21 3.65

α Coronæ Borealis.

April	13	15 28 20.16
June	5	20.22
	9	20.24
	26	20.09
November	22	20.21

α Serpentis.

1852.		h. m. s.
April	13	15 36 52.89
	15	52.92
June	5	52.77
	9	52.89

ϱ Serpentis.

April	13	15 44 40.94

β^1 Scorpii.

April	13	15 56 43.25
July	10	43.32

δ Ophiuchi.

April	13	16 6 29.30

α Scorpii.

April	13	16 20 12 99
July	10	12.98

η Draconis.

July	19	16 21 58.06

α Herculis.

July	19	17 7 48.44
	21	48.51

β Draconis.

July	19	17 27 2.52

α Ophiuchi

July	21	17 27 58.34
August	2	58.16

γ Draconis.

July	21	17 53 7.54

μ Sagittarii.

July	19	18 4 47.46
	21	47.48
	27	47.51
August	2	47.49

λ Sagittarii.

July	27	18 18 42.58

α Lyræ.

July	19	18 31 51.49
	27	51.50
August	2	51.50

β Lyræ

July	19	18 44 32.55
August	2	32.51

A. Z., 224, 110.

1852.		h. m. s.
July	8	18 50 36.66

Anonymous, Dec. — 22° 2′.

July	8	18 52 9.03

o Sagittarii.

July	8	18 55 41.56

A. Z., 224, 121.

July	8	18 59 4.07

Madras C., 1351.

July	3	19 8 20.09

G. 12, Y. C., 1719.

July	8	19 13 47.50

Lalande, 36878.

1852.		h. m. s.
July	8	19 23 15.94

Lalande, 37221.

July	8	19 30 59.79

α Aquilæ.

January	28	19 43 27.78
February	8	27.89
October	11	27.71

β Aquilæ.

October	11	19 47 56.60

α^2 Capricorni.

October	11	20 9 43.69

α Cygni.

1852.		h. m. s.
February	3	20 36 18.89
October	8	18.82

61^1 Cygni.

October	8	21 0 10.45
	20	10.54
	23	10.57

ζ Cygni.

October	8	21 6 33.08
	23	33.13

α Cephei.

October	8	21 14 59.09

β Aquarii.

1852.		h. m. s.
October	8	21 23 39.52
	20	39.42
	23	39.61

ε Pegasi.

October	8	21 36 49.21
	20	49.10
	23	48.96

ζ Pegasi.

November	27	22 33 58.85

α Piscis Australis.

November	27	22 49 21.02

α Pegasi.

November	27	22 57 17 44

MEAN DECLINATIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE MURAL CIRCLE,

IN

1851.

α Andromedæ, 0h. 0m.

1851.		° ′ ″
November	22	+28 15 [1.3]
	26	43.1

γ Pegasi, 0h. 5m.

November	22	+14[23 16.7]
	26	20 52.1
December	13	21 4.6
	18	21 4.2

Weisse, 169, 0h. 10m.

September	26	+ 6 55 32.1

α Cassiopeiæ, 0h. 32m.

November	11	+55 43 8.3
	22	1.1

β Ceti, 0h. 36m.

November	7	−18 48 26.0
	26	− 26.0
December	6	− 29.2
	13	+ 32.2
	18	− 38.9
	20	− 32.8

η Ceti, 1h. 1m.

December	5	+ 2 36 2.2

Polaris, 1h. 4m.

June	12 S. P.	+88 30 35.0
	14 S. P.	40.6
October	2	32.7
November	7	36.1
	22	34.6
	26	37.4
	27	36.5
December	1	[56.0]
	6	35.8
	18	37.2

θ Ceti, 1h. 16m.

December	13	− 8 57 18.8
	20	26.2
	26	23.2

α Arietis, 1h. 59m.

November	27	+22 45 3.6

Lalande, 4238, 2h. 9m.

November	11	+17 45 25.3

γ Ceti, 2h. 35m.

December	14	+ 2 36 9.7

4 Eridani, 2h. 51m.

December	13	−24 27 49.2
	26	53.1

α Ceti, 2h. 54m.

1851.		° ′ ″
December	14	+ 3 30 3.2

o Tauri, 3h. 17m.

December	5	+ 8 29 50.9

27 τ³ Eridani, 3h. 40m.

December	10	−23 41 41.0

30 τ⁸ Eridani, 3h. 47m.

December	10	−25 3 27.6

50 υ⁶ Eridani, 4h. 28m.

December	10	−30 4 24.5
	14	17.0

β Orionis, 5h. 13m.

December	10	− 8 22 43.0
	14	35.5

δ Orionis, 5h. 24m.

December	10	− 0 24 45.9

ε Orionis, 5h. 28m.

December	14	− 1 18 3.1

α Columbæ, 5h. 39m.

December	10	−34 9[17.1]

α Orionis, 5h. 47m.

December	14	+ 7 22 33.6

μ Geminorum, 6h. 14m.

December	10	+22 35 8.8

α Canis Majoris, 6h. 39m.

December	10	−16 30 44.4

ε Canis Majoris, 6h. 52m.

December	10	−28 46 10.0

B. A. C., 2393, 7h. 9m.

December	10	−26 46 45.1

30 Canis Majoris, 7h. 12m.

December	10	−24 40 59.2

α² Geminorum, 7h. 26m.

March	11	+32 12 42.2

α Canis Minoris, 7h. 32m.

1851.		° ′ ″
March	4	+ 5 36 19.8

B. A. C., 2557, 7h. 37m.

December	10	+26 0 9.3

B. A. C., 2599, 7h. 43m.

December	10	−24 32 21.4

ξ Argus, 7h. 43m.

December	10	−24 29 7.4

ε Hydræ, 8h. 40m.

March	14	+ 6 57 57.9

α Hydræ, 9h. 21m.

March	20	− 7 59 37.3

ε Leonis, 9h. 37m.

April	4	+24 27 45.2

α Leonis, 10h. 2m.

March	14	+12 41 56.4
April	4	56.3

α Virginis, 13h. 16m.

June	4	−10 22 35.3

α Bootis, 14h. 9m.

June	10	+[19 67]55.6
	13	57.0

4 Libræ, 14h. 35m.

June	4	−24 21 17.8

ε Bootis, 14h. 38m.

June	9	+27 42 35.2

12 Libræ, 14h. 46m.

June	4	−24 1 29.8

β Ursæ Minoris, 14h. 50m.

June	12	+74 46 8.4
	14	6.9

β Libræ, 15h. 9m.

June	4	− 8 49 32.7
	24	33.3

ψ¹ Lupi, 15h. 30m.

1851.		° ′ ″
June	4	−34 5 5.8

Weisse, XV, 845, 15h. 44m.

June	18	−14 18 56.7

Weisse, XV, 864, 15h. 44m.

June	17	−14 15 42.0
	18	42.8
	19	42.6
	20	43.4

ζ Ursæ Minoris, 15h. 47m.

June	9	+78 15 11.8

α Lyræ, 18h. 36m.

December	16	+38 38 49.7
	17	48.6
	18	49.4
	19	52.3
	20	50.7

β Lyræ, 18h. 45m.

October	9	+33 11 30.7

τ Sagittarii, 18h. 58m.

October	9	−27 53 5.7
	14	4.3
	17	3.5

B. A. C., 6727, 19h. 31m.

October	9	−23 45 50.4
	11	49.6
	17	49.6

α Aquilæ, 19h. 44m.

October	14	+ 8 28 34.7
November	26	38.3
December	17	35.3
	18	32.0
	19	33.6
	20	34.1

β Aquilæ, 19h. 47m.

October	6	+ 6 2 9.8
	9	8.3

λ Ursæ Minoris, 20h. 3m.

October	6	+88 50 37.8

α² Capricorni, 20h. 10m.

October	10	−13 0 20.0
	11	21.0

α Cygni, 20h. 36m.

October	11	+44 44 48.9

ζ Cygni, 21*h*. 6*m*.

1851.		° ′ ″
November	17	+29 36 51.2

5 Piscis Australis, 21*h*. 20*m*.

October	6	−31 53 19.9
	16	17.4
November	6	15.9
	11	18.8
	17	17.4
	21	18.6
	22	18.2

6 Piscis Australis, 21*h*. 23*m*.

October	9	−34 36 9.6
November	11	8.1
	21	7.9
	22	9.4

ε Pegasi, 21*h*. 37*m*.

1851.		° ′ ″
October	15	+ 9 11 24.0
November	17	+ 9 11 24.4
	27	+ 9 11 25.9

α Aquarii, 21*h*. 58*m*.

October	8	− 1 2 47.4
	16	− 1 2 46.9

15 Piscis Australis, 22*h*. 1*m*.

October	6	−33 16 59.4
	9	60.1
November	11	52.5
	17	57.7
	21	57.1
	22	57.7
	27	54.6
	28	53.8
	29	54.3

λ Piscis Australis, 22*h* 6*m*.

1851.		° ′ ″
October	9	−28 30 31.8
November	21	28.8
	22	30.0
	27	27.5
	29	26.8

α Piscis Aust., 22*h*. 49*m*. 21*s*.

October	11	−30 24 57.3
November	17	57.7
December	16	60.4
	18	55.5

α Pegasi, 22*h*. 57*m*.

November	26	+14 23 52.3
December	18	57.8

100 b^3 Aquarii, 23*h*. 24*m*.
B. A. C. 8194.

1851.		° ′ ″
December	18	−22 11 41.9
	20	41.1

B. A. C., 8196, 23*h*. 24*m*.

October	17	−22 4 32.8

Anonymous, 23*h*. 45*m*.

November	7	+ 6 30 11.6

ω Piscium, 23*h* 52*m*.

December	1	+ 6 2 1.2

MEAN DECLINATIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE MURAL CIRCLE,

IN

1852.

α Andromedæ, 0h. 0m. 30s.

1852.		° ′ ″
April	16	+28 15 43.7
October	15	45.4
November	3	44.9
	9	45.9
	27	45.9
	30	47.2

γ Pegasi, 0h. 5m. 30s.

October	12	+14 20 57.1
November	9	21 0.1
December	8	20 58.4

51 Piscium, 0h. 24m. 40s.

October	20	+ 6 7 38.5
November	3	37.1
	9	37.5
	27	37.3

α Cassiopeæ, 0h. 32m. 2s.

October	12	+55 42 51.9
	15	51.1

Weisse, O, 572, 0h. 33m. 15s.

December	8	+ 6 26 28.4

β Ceti, 0h. 36m. 3s.

October	16	−18 48[34.9]*
November	3	38.4
	9	35.2
	11	37.0
	27	35.5
December	14	34.8

Weisse, O, 635, 0h. 36m. 34s.

December	6	+ 6 57 3.4

Weisse, O, 657, 0h. 37m. 55s.

December	6	+ 7 1 23.1

Weisse, O, 680, 0h. 39m. 7s.

December	8	+ 7 29 13.3

Weisse, O, 965, 0h. 54m. 53s.

November	27	+ 8 19 36.4

Polaris, 1h. 5m. 1s.

April	1	+88 30 33.2
	16	32.2
	24	31.9
	26	34.7
October	5 S. P.	33.8
	16	33.2
	20 S. P.	34.8
November	3	32.4
	8 S. P.	37.3
	9 S. P.	37.3
	9	34.6
	10 S. P.	36.4

Polaris, 1h. 5m. 1s. (Continued.)

1852.		° ′ ″
November	12	+88 30 35.4
	12 S. P.	39.4
	27	33.3
	30	31.8
December	2	32.5
	6	32.3
	14	33.0
	17	32.0
	18	33.6

Weisse, I, 100, 1h. 7m. 0s.

December	29	+ 8 56 52.5

θ¹ Ceti, 1h. 16m. 32s.

January	14	− 8 57 34.6
December	6	33.5

Weisse, I, 299. 1h. 18m. 5s.

December	29	+ 9 37 33.2

Weisse, I, 513, 1h. 29m. 42s.

December	17	+11 18 29.9

Weisse, I, 655, 1h. 35m. 50s.

December	29	+ 4 59 17.9

b (Egeria), 1h. 42m. 2s.

November	3	+13 36 4.9

Weisse, I, 855, 1h. 47m. 38s.

November	30	+11 50 7.8

Weisse, I, 896, 1h. 50m. 31s.

November	27	+15 11 50.2

Weisse, I, 943, 1h. 52m. 46s.

December	8	+12 39 21.1
	17	20.4

Weisse, I, 973, 1h. 54m. 31s.

December	8	+12 45 4.6
	17	3.6

B Z., 394, 164, 1h. 58m. 24s.

December	29	+16 22 16.4

α Arietis, 1h. 58m. 44s.

October	20	+22 45 4.1
November	3	1.8
	9	2.7
	27	4.4
	30	2.9
December	11	5.9
	14	4.6

ξ Arietis, 2h. 16m. 47s.

1852.		° ′ ″
November	9	+ 9 55 44.9
December	11	47.4

Lalande, 4460, 2h. 17m. 17s.

November	30	+18 52 27.0

γ Ceti, 2h. 35m. 32s.

November	9	+ 2 36 5.8
December	11	6.0
	14	5.9

Weisse, II, 790, 2h. 45m. 43s.

November	9	+ 8 43 16.7
December	11	17.0

B. A. C., 905, 2h. 48m. 13s.

November	30	+ 7 46 30.4

4 Eridani, 2h. 50m. 44s.

January	14	−24 28 0.3

α Ceti, 2h. 54m. 27s.

November	9	+ 3 29 54.5
December	14	56.5
	17	52 2
	18	57.1

Rumker, 654, 2h. 25m. 4s.

December	17	+19 46 28.9

12 Eridani, 3h. 5m. 42s.

December	11	−29 34 48.8

α Persei, 3h. 13m. 38s.

April	16	+49 19 21.1
	27	24.0
November	9	23.1
December	18	15.6

B. A. C., 1063, 3h. 18m. 9s.

November	9	+49 19 22.1

Weisse, III, 447, 3h. 25m. 2s.

December	11	+13 16 23.6

Weisse, III, 474, 3h. 26m. 14s.

December	18	+13 40 7.0

η Tauri, 3h. 38m. 35s.

November	9	+23 38 15.4

Anonymous, 3h. 39m.

1852.		° ′ ″
December	11	+11 12 13.9

Anonymous, 3h. 47m.

December	18	+15 42 2.1

γ¹ Eridani, 3h. 51m. 2s.

November	9	−13 56 18.8
December	14	17.2
	18	−14 0 11.6

57 Tauri, 4h. 11m. 31s.

December	14	+13 40 10.5

α Tauri, 4h. 27m. 19s.

February	24	+16 12 13.8
	26	13.2
April	16	11.4
	27	11.4
May	1	11.0
	7	11.0
December	14	13.2
	18	15.3
	30	14.7

B. A. C., 1468, 4h. 37m. 31s.

December	30	+18 27 34.25

B. A. C., 1478, 4h. 39m. 55s.

December	18	+18 27 27.6

B. A. C., 1537, 4h. 50m. 29s.

December	30	+14 18 35.3

α Aurigæ, 5h. 5m. 37s.

February	19	+45 50 20.5
	24	23.2
	26	21.4
March	3	23.4
	10	21.8
	15	21.6
April	27	21.4
December	30	22.9

β Orionis, 5h. 7m. 20s.

May	1	− 8 22 45.2
	7	42.9
December	18	41.1

β Tauri. 5h. 16m. 49s.

February	24	+28 28 36.1
March	3	32.4
May	1	31 5
December	30	33.6

δ Orionis, 5h. 24m. 21s.

March	3	— 0° 24′ 50″.8
	15	52.5
	18	49.2
December	18	20.4

α Leporis, 5h. 26m. 7s.

February	3	—17 56 0.2
	25	55 58.8

ε Orionis, 5h. 28m. 36s.

February	19	—1 18 [6.5]*
March	23	5.3
May	1	7.7
December	30	5.2

α Columbæ, 5h. 34m. 13s.

February	3	—34 9 26.2
March	3	24.5
	6	23.5
	10	27.9
December	18	25.9

α Orionis, 5h. 47m. 3s.

February	9	— 7 22 29.4
March	3	28.4
	6	27.0
	15	27.0
	18	31.0
	23	29.3
May	7	28.5
December	18	29.9
	30	30.4

μ Geminorum, 6h. 13m. 53s.

February	3	—22 35 9.7
	9	10.2
March	6	9.6
	18	11.8
	23	9.5

51 Cephei, 6h. 28m. 33s.

March	23	+87 15 22.4

α Canis Majoris, 6h. 38m. 32s.

February	3	—16 30 44.9
	4	47.1
	9	49.6
	14	47.3
March	6	49.0
	10	49.7
May	6	50.0
July	28	48.7
August	6	50.9

ε Canis Majoris, 6h. 52m. 43s.

January	26	—28 46 15.5
February	3	10.5
	4	12.7
	14	15.1
	19	17.1
	25	16.0
May	6	18.5
August	7	17.3

26 Canis Majoris, 7h. 6m. 4s.

January	30	—25° 41′ 33″.0

28 Canis Majoris, 7h. 8m. 43s.

March	10	—26 30 54.5

B. A. C., 2393, 7h. 8m. 48s.

February	3	—26 46 40.8

δ Geminorum, 7h. 11m. 10s.

February	4	—22 15 15.3
	7	15.3
	25	14.9
March	23	15.2

Weisse, VII, 320, 7h. 10m. 36s.

March	15	+12 6 36.1

B. A. C., 2418, 7h. 12m. 29s.

January	30	—24 42 12.9

α² Geminorum, 7h. 25m. 1s.

March	10	+32 12 43.6
	23	44.3
May	6	44.1

α Canis Minoris, 7h. 31m. 27s.

February	7	+ 5 36 22.2
March	15	19.6
May	6	19.0
July	29	17.2
August	7	19.2
	14	18.5

(* 25) W., 7h. 32m. 50s.

February	4	+10 28 19.2

B Geminorum, 7h. 36m. 8s.

February	3	+28 23 3.5
	9	3.5

B. A. C., 2557, 7h. 36m. 37s.

January	16	—25 59 45.1
	26	48.7
	30	46.5

82 Geminorum, 7h. 39m. 35s.

February	25	+23 30 28.4
March	10	28.0
	18	30.9
	25	25.8

ξ Argus, 7h. 42m. 59s.

January	26	—24 29 7.1

B. A. C., 2599, 7h. 42m. 44.

January	30	—24° 32′ 17″.6

U. S. Ast. Ex., G. C. 49, 7h. 46m. 59s.

February	25	+25 3 21.8

μ¹ Cancri, 7h. 57m. 25s.

January	29	+23 3 39.1
February	3	40.9

B. A. C., 2703, 7h. 57m. 42s.

February	3	+22 53 3.0
March	10	52 59.7
	18	53 0.8

15 Argus, 8h. 1m. 10s.

March	23	—23 52 28.6
April	15	30.3

γ Cancri, 8h. 11m. 37s.

January	26	+24 29 26.4
	29	29.5
February	3	27.8
	9	27.8
March	15	26.2
	31	26.3

24 υ¹ Cancri, 8h. 17m. 44s.

January	26	+25 1 24.6

28 υ² Cancri, 8h. 19m. 43s.

February	3	+24 38 22.7
	4	20.1

30 υ³ Cancri, 8h. 22m. 38s.

January	16	+24 34 58.7
February	4	59.6

32 υ⁴ Cancri, 8h. 24m. 8s.

January	16	+24 35 28.6

α Cancri, 8h. 36m. 9s.

March	31	+18 42 7.5

ε Hydræ, 8h. 38m. 50s.

March	24	+ 6 57 56.6
	25	54.5

B. A. C., 3194, 9h. 14m. 51s.

March	31	+25 49 15.5

α Hydræ, 9h. 20m. 13s.

March	24	— 8° 0′ 38″.6
	25	40.2
July	9	41.0
	15	42.0
	20	40.5
	21	42.5

B. Z., 345,44, 9h. 22m. 52s.

March	31	+25 4 17.6

ε Leonis, 9h. 37m. 20s.

January	29	+24 27 48.5
March	25	42.7
October	8	41.4

B. Z., 275, 106, 10h. 1m.

April	7	+21 3 56.6

α Leonis, 10h. 0m. 23s.

January	29	+12 41 57.9
March	24	54.6
	25	53.3
	31	54.0
April	13	52.2
	16	53.6
	23	54.4
July	8	53.8
	10	52.2
	20	53.7
	21	51.6
October	8	50.2

Weisse, X, 229, 10h. 13m. 35s.

April	7	— 4 39 58.2
	10	52.6

Weisse, X, 45, 10h. 3m. 33s.

January	16	+12 46 28.2

γ Leonis, 10h. 11m. 42s.

March	31	+20 35 54.4

Weisse, X, 224, 10h. 13m. 12s.

April	7	— 4 37 44.6
	10	47.5

Weisse, X, 538, 10h. 29m. 58s.

April	13	—10 16 2.6

Weisse, X, 879, 10h. 48m. 31s.

April	7	—14 28 19.2
	10	20.9

α Ursæ Majoris, 10h. 54m. 26s.

April	23	+62 33 35.0
	27	37.1

α Ursæ Majoris, 10h. 54m. 26s. (Continued.)

May	1	+62° 33′ 38″.1
June	5	35.7
July	23	35.4
	24	36.4
	28	35.0

χ¹ Hydræ, 10. 58m. 7s.

January	29	−26 29 1.5

χ² Hydræ, 10h. 58m. 42s.

January	29	−26 28 39.1

δ Leonis, 11h. 6m. 7s.

April	10	+21 20 40.5
	13	40.2
	15	41.4

72 Leonis, 11h. 7m. 13s.

May	20	+23 54 44.4
	24	45.7

δ Hydræ, 11h. 11m. 51s.

January	29	−13 57 57.9

B. A. C., 3926, 11h. 25m. 30s.

January	29	−30 15 31.2

B. A. C., 3945, 11h. 29m. 9s.

January	16	32 44 15.9

B. Z., 353, 57, 11h. 31m.

April	7	+24 9 35.4
	10	34.9

B. A. C., 3973, 11h. 35m. 39s.

May	22	+42 33 21.0

93 Leonis, 11h. 40m. 15.

May	20	+21 3 9.5
	24	10.3

β Leonis, 11h. 41m. 24s.

April	10	+15 24 36.0
May	4	38.3
	10	34.7

B. A. C., 4014, 11h. 45m. 3s.

May	24	+16 16 25.3
	25	24.3

γ¹ Ursæ Majoris, 11h. 45m. 55s.

April	7	+54° 31′ 42″.5
June	5	35.5

65 Ursæ Majoris, 11h. 47m. 17s.

May	20	+47 18 43.0
	24	43.0

B. A. C., 4028, 11h. 47m. 24s.

May	20	+47 18 17.5
	24	17.6

2 Comæ, 11h. 56m. 35s.

May	20	+22 17 43.9
	22	42.3

2 Canum Venaticorum, 12h. 8m. 36s.

May	20	+41 29 45.5

Anonymous, 12h. 11m.

May	10	+23 51 32.7

η Virginis, 12h. 12m. 14s.

May	1	+ 0 10 2.5

8 Comæ, 12h. 11m. 44s.

May	20	+23 52 7.6

6 Canum Venat., 12h. 18m. 27s.

May	20	+39 51 7.0

20 Comæ, 12h. 22m. 11s.

May	20	+21 43 40.1
	22	39.5

Anonymous, 12h. 31m.

May	10	+15 37 43.3

9 Canum Venat., 12h. 31m. 32s.

May	20	+41 42 4.3

Anonymous, 12h. 34m.

May	10	+15 58 47.8

Anonymous, 13h. 6m.

May	10	+15 51 9.7

Anonymous, 13h. 7m.

May	10	+13 7 33.6

η Bootis, 13h. 47m. 33s.

July	8	+19° 9′ 5″.8

θ Centauri, 13h. 57m. 52s.

June	10	−35 37 44.2

B. A. C., 4711, 14h. 4m. 29s.

June	5	−25 54 20.8

α Bootis, 14h. 8m. 49s.

November	9	+19 57 53.6
	10	56.6

51 Hydræ, 14h. 14m. 28s.

June	6	−27 3 45.8
	9	47.7
	10	43.2

α¹ Libræ, 14h. 42m. 24s.

June	9	−15 22 12.8
	10	9.7
	11	10.2
	12	13.9
	29	11.7

α² Libræ, 14h. 42m. 35s.

June	5	−15 24 53.0
	6	54.2
	9	55.7
	10	53.1
	11	52.5
	12	55.1
	25	53.7
	26	52.5
	29	54.2

β Ursæ Minoris, 14h. 51m. 12s.

July	19	+74 46 10.4

β Libræ, 15h. 8m. 56s.

June	10	− 8 49 31.9
	11	31.6
July	2	34.4
	8	34.4
	15	34.6
	19	34.3
	23	34.7

Weisse, XV, 265, 15h. 15m. 10s.

June	12	−13 48 34.5
July	3	34.0

Weisse, XV. 281, 15h. 15m. 46s.

June	12	−13 46 20.6
July	3	20.2

Weisse, XV, 400, 15h. 21m. 35s.

July	8	−14° 17′ 38″.8

α Coronæ Borealis, 15h. 28m. 20s.

July	23	+27 13 21.2

Lalande, 28697, 15h. 37m. 21s.

June	28	−16 28 32.8

Anonymous, 15h.

June	28	−16 11 50.9

ζ Ursæ Minoris, 15h. 49m. 32s.

July	7	+78 15[22.8]

Lalande, 29306, 15h. 58m. 38s.

July	2	−17 31 38.0

B. A. C., 5408, 16h. 6m. 0s.

July	2	−18 8 47.9

i Irene, 16h. 10m.

November	12	−21 23 42.9

Lalande, 29696, 16h. 10m. 53s.

July	2	−18 27 35.2

A. L., 115, 164, 16h. 15m. 45s.

July	8	+71 12 16.4

η Draconis, 16h. 21m. 58s.

June	21	+61 51 17.1

B. A. C., 5580, 16h. 33m. 5s.

July	2	−19 37 55.5

Lalande, 30479, 16h. 38m. 7s.

July	2	−19 49 12.7

ε Scorpii, 16h. 40m. 28s.

August	3	−34 0 56.9

B. A. C., 5663, 16h. 44m. 34s.

July	2	−20 9 34.7

ε Ursæ Minoris, 17h. 1m. 31s.

July	23	+82 16 37.1

α Herculis, 17h. 7m. 48s.

August	6	−14° 33′ 52″.9
	12	54.5
	26	51.5

υ Serpentis, 17h. 12m. 24s.

July	27	−12 41 23.2

υ Scorpii, 17h. 20m. 34s.

August	3	−37 10 13.5

λ Scorpii, 17h. 23m. 26s.

August	3	−36 59 19.2

α Ophiuchi, 17h. 27m. 58s.

August	2	+12 40 25.5
	12	25.0

Star comp. planet, 17h. 40m.

August	14	−13 14 37.0

ν¹ Sagittarii, 18h. 4m. 48s.

July	27	−21 5 33.4
August	3	33.9
	12	31.6
	26	36.0

δ Ursæ Minoris, 18h. 20m. 44s.

August	2	+86 35 48.2
	14	47.1
	26	47.1
	30	47.9

η Sagittarii, 18h. 18m. 43s.

July	27	−25 29 57.6

α Lyræ, 18h. 31m. 52s.

January	15	+38 38 53.3
August	3	49.8
	31	46.8
September	1	45.6
December	8	47.4
	13	50.9

β Lyræ, 18h. 44m. 32s.

December	8	+33 11 28.4

g Hygea, 18h. 50m.

August	31	−22 1 39.2
September	1	41.3

ι Hygea, 18h. 50m.

September	2	−21 39 6.0

o Sagittarii, 18h. 55m. 41s.

August	31	−21° 57′ 24″.4
September	1	25.3

π Sagittarii, 19h. 0m. 50s.

September	1	−21 14 29.4

Mad. G. C., 8840, 19h. 8m.

September	1	−21 20 0.6

G. 12. Y., 1719, 19h. 13m. 48s.

September	2	−20 55 8.7

κ (Hygea), 19h. 18m.

August	31	−20 39 38.2

Lalande, 36878, 19h. 22m. 16s.

August	31	−20 43 49.8

l Hygea, 19h. 30m.

October	1	−20 37 51.0

Lalande, 37221, 19h. 31m. 0s.

August	31	−22 24 3.2

Madras, 1417, 19h. 31m.

September	1	−20 53 15.0

Lalande, 37507, 19h. 37m. 37s.

October	2	−21 52 57.6

γ Aquilæ, 19h. 39m. 8s.

September	2	+10 15 3.4

α Aquilæ, 19h. 43m. 28s.

January	15	+ 8 28 35.3
August	26	31.5
December	8	30.1

Lalande, 37873, 19h. 47m. 39s.

August	31	−22 26 3.3

β Aquilæ, 19h. 47m. 57s.

September	22	+ 6 2 8.8

B. A. C., 6850, 19h. 50m. 41s.

October	1	−22 36 47.2

Lalande, 38164, 19h. 53m.

August	31	−19° 30′ 23″.1

Lalande, 3829, 19h. 56m.

September	1	−19 11 33.4

B. A. C., 6903, 19h. 59m. 33s.

September	1	−19 13 15.3

α² Capricorni, 20h. 9m. 44s.

August	31	−13 0 22.2
October	28	20.2

α Cygni, 20h. 36m. 19s.

September	27	+44 44 46.3
October	28	49.4

61¹ Cygni, 21h. 0m. 10s.

September	27	+38 0 51.4
October	19	51.6
November	3	53.0

ζ Cygni, 21h. 6m. 33s.

September	22	+29 36 48.7
	29	49.0
October	15	51.4

β Aquarii, 21h. 23m. 39s.

September	27	− 6 13 42.6
	29	41.7
October	19	41.7
	28	40.3
November	3	39.0
	11	39.7

ε Pegasi, 21h. 36m. 49s.

September	22	+ 9 11 22.9
	29	22.0
October	15	24.7
	16	26.1
	28	24.4
November	8	21.6
	10	23.5
	11	24.4

Anonymous, 21h. 50m.

September	22	−21 26 56.5
October	19	55.2

Lalande, 42813, 21h. 50m.

October	28	−20 20 16.5
November	3	17.2

Anonymous, 21h. 51m.

November	8	−20° 42′ 56″.9

α Aquarii, 21h. 58m. 5s.

October	2	− 1 2 48.0
	15	2 45.4
	28	2 45.8

Lalande, 43040, 21h. 58m.

October	23	−19 23 28.7

Lalande, 43106, 21h. 59m.

October	21	−22 19 19.3

Weisse, XXI, 1338, 21h. 59m.

November	8	−10 37 19.6

Weisse, XXI, 1375, 22h. 13m.

November	10	− 9 54 41.8

Lalande, 43288, 22h. 4m.

October	19	−18 45 58.0
	20	50.7
November	11	54.9

λ Piscis Australis, 22h. 5m. 48s.

September	29	−28 30 30.4
October	15	28.0
	16	26.9

Anonymous, 22h. 21m.

November	11	−16 25 45.6

Anonymous, 22h. 23m.

October	20	−15 19 55.3

Weisse, XXII, 640, 22h. 32m.

October	19	−14 50 20.7

Weisse, XXII, 644, 22h. 33m.

October	19	−14 50 43.1
	24	42.9

ζ Pegasi, 22h. 33m. 59s.

October	1	+10 2 58.4
	15	3 1.3
	16	3 2.2

ζ Pegasi, 22h. 33m. 59s. (Continued.)

		° ′ ″
October	20	+10 3 3.0
November	3	1.3
	30	3 2.5
December	1	2 58.8

Anonymous, 22h. 43m.

November	11	−8 6 0.7

α Piscis Austr., 22h. 49m. 21s.

October	11	−30 24 56.0
	12	59.8
	15	57.7
	16	67.0
	20	53.4
November	3	55.8
	27	54.7
	30	55.0
December	1	57.2

Weisse, XXII, 1150, 22h. 54m.

		° ′ ″
October	19	−12 7 1.2

Weisse, XXII, 1156, 22h. 55m.

October	19	−12 4 12.0

Lalande, 45049, 22h. 55m.

October	21	−21 40 16.2

α Pegasi, 22h. 57m. 17s.

November	11	+14 23 58.9

Weisse, XXII, 1232, 22h. 58m.

October	21	−11 14 45.2

Weisse, XXIII, 85, 23h. 6m.

		° ′ ″
November	30	−10 44 40.9
December	1	44.2

Lalande, 45473, 23h. 6m.

November	8	−19 41 20.5

Lalande, 45704, 23h. 13m.

November	27	+19[31]44.5

θ Piscium, 23h. 20m. 22s.

October	11	+5 33 18.0

Weisse, XXIII, 458, 23h. 23m.

		° ′ ″
October	11	+5 35 56.5

1636, Santini, 23h. 25m.

November	30	+6 15 38.9

ι Piscium, 23h. 32m. 14s.

October	20	+4 48 53.2
	21	51.6
November	3	51.5
	8	50.5
	9	52.0
	11	50.1

B. A. C., 8287, 23h. 42m. 48s.

October	12	−15 1 3 7

MEAN RIGHT ASCENSIONS AND DECLINATIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE MERIDIAN CIRCLE,

IN

1851.

α Andromedæ.

		R. A.	Dec.
		h. m. s.	° ′ ″
October	20	0 0 38.61	+28 15 46.59
	23		45.59
November	6		45.35
December	19	0 0 38.53	

Anonymous.

September	15	0 2 56.30	+11 59 5.05

γ Pegasi

October	8		+14 20 58.92
	20	0 5 31.01	58.32
	23		59.89
December	23	31.09	

α Cassiopeæ.

September	15	0 32 1.58	
November	11		+55 42 54.57
	17		51.64
December	5	0 32 1.42	

β Ceti.

September	15	0 36 3.39	

α Ursæ Minoris. (Polaris.)

May	24	1 4 57.92	
	25	60.53	
	31	61.19	
February	7	62.73	
April	22 S. P.	60.85	
	22	59.12	
May	26 S. P.	62.02	
	26	58.02	
June	7 S. P.	60.14	
	10 S. P.	62.79	
	14 S. P.	66.36	
August	15 S. P.		+88 30 34.14
	26 S. P.		35.83
	29 S. P.		35.45
September	12 S. P.	58.86	33.19
	17 S. P.		36.98
	26 S. P.		32.99
October	2 S. P.		35.77
	14 S. P.		31.90
	15 S. P.		31.57
	16 S. P.		35.60
	19 S. P.		35.01
	20		35.61
	22 S. P.	63.05	
	23		34.28
	23 S. P.		36.89
November	7		30.41
	22	62.71	
	29	57.84	

θ Ceti.

December	5	1 16 32.10	

α Arietis.

		R. A.	Dec.
		h. m. s.	° ′ ″
January	24	1 58 43.60	
February	7	43.65	
December	5	43.71	+22 45 1.17

γ Ceti.

February	7	2 35 31.46	

α Persei.

February	7	3 13 37.83	
May	7	38.32	

o Tauri.

December	5	3 16 44.81	

γ^1 Eridani.

February	12	3 51 1.97	

α Tauri.

January	23	4 27 19.05	
	24	19.10	
	25	19.02	
February	7	18.97	+16 12 13.00
March	13	18.98	
	28	19.05	
April	9	18.96	

α Aurigæ.

April	9	5 5 36.81	

β Orionis.

January	24	5 7 19.74	
	31	(18.65)	
March	13	7 19.77	
April	9	19.97	

β Tauri.

January	24	5 16 48.67	
	31	48.86	
February	22	48.59	+28 28 33.31
March	13	48.74	+28 28 33.47
	26	48.87	
April	9	48.72	

δ Orionis.

January	24	5 24 20.56	
	25	20.73	
	31	20.63	
February	17	20.74	
	22	20.68	
March	13	20.63	— 0 24 53.42
	26	20.76	

α Leporis.

January	31	5 26 6.97	
March	26	6.91	

ε Orionis.

		R. A.	Dec.
		h. m. s.	° ′ ″
January	31	5 28 36.23	
February	22	36.29	
March	26	36.32	

α Columbæ.

January	24	5 34 13.07	
	31	13.13	
February	22	13.17	
	25	13.09	
March	13	13.14	—34 9 28.25

α Orionis.

January	23	5 47 3.10	
	24	2.98	
February	22	3.20	+ 7 22 28.13
	25	3.12	
March	13	3.12	
	26	3.14	28.59
April	9	3.18	

μ Geminorum.

February	22	6 13 52.95	+22 35 10.98
March	26	53.04	

51 (Hev.) Cephei.

January	23	6 28 29.27	
	31	35.52	
February	7	31.44	+87 15 24.64
	12	34.51	18.12
	17	32.78	
	18	30.84	21.64
	22	(24.87)	
	25	33.56	
March	11	27.96	
	13	30.09	25.86

α Canis Majoris.

January	31	6 38 32.35	
February	6	32.30	
	7	32.10	—16 30 49.21
	18	32.11	
	22	32.32	
March	11		49.17
	13	32.30	48.63
	26	32.22	
April	9	32.18	
June	4	32.26	

ε Canis Majoris.

January	23	6 52 44.03	
	24	(43.43)	
February	6	43.78	—28 46 14.19
	7		12.84
	12	43.89	
	17	43.87	
	18	43.96	19.92
	22	43.92	
	25	43.58	
March	13	43.92	13.57

δ Geminorum.

		R. A.	Dec.
		h. m. s.	° ′ ″
February	6	7 11 9.25	+22 15 18.29
March	11	9.34	15.47

α^2 Geminorum.

February	7	7 25 0.98	+32 12 46.03
	18	1 07	39.73
March	11	0.90	44.94

68 Geminorum.

March	13	7 25 2.67	+16 14 32.88

α Canis Minoris.

February	6	7 31 26.89	+ 5 36(26.96)
	7	26.93	
	12	26.94	
	17	26.82	
	18	26.85	20.19
March	4	26.83	13.14
	11	26.58	15.82
June	4	26.89	

β Geminorum.

February	6	7 36 7.65	+28 23 4.65
	18	7.61	(59.21)
	26	(8.28)	3.58
March	4		

Weisse 2, VII, 1212.

February	26	7 45 47.31	+39 40 31.41

ϰ Geminorum.

March	13	7 37 23.05	+24 45 10.98

Lalande, 15729.

February	7	7 56 12.85	+36 41 45.63

15 Argus.

March	4	8 1 9.46	−23 52 32.61

δ Cancri.

March	13	8 36 (6.85)	+18 42 8.79

α Cancri.

March	13	8 50 16.76	+12 26 4.16

ε Hydræ.

February	25	8 38[51.44]	
	26	49.82	+ 6 57 57.43
March	4	49.47	57.03

ι Ursæ Majoris.

February	26	8 48 54.54	+48 37 33.38
March	4		33.53

α Hydræ.

		R. A.	Dec.
		h. m. s.	° ′ ″
February	12	9 20 12.81	

ε Leonis.

April	4	9 37 19.56	+24 27 48 57

α Leonis.

April	4	10 0 22.65	+12 41 57.59
May	7	22.80	

α Ursæ Majoris.

March	11	10 54 25.89	+62 33 35.45

δ Leonis.

March	24	11 6 7.32	
	28	7.28	

δ Hydræ et Crateris.

March	11		−13 58 2.88*
	24	11 11 50.65	
	27	50.41	

β Leonis.

March	24	11 41 24.22	

γ Virginis.

June	7	12 34 3.58	

α Virginis.

May	26	13 17 17.83	
June	10	17.82	
	27	17.87	
August	26	17.80	
	27	17.89	

η Ursæ Majoris.

May	26	13 41 37.43	
June	10	37.35	
	27	37.32	

η Bootis.

April	22	13 47 32.17	
June	14	32.30	
	27	32.80	

α Bootis.

April	22	14 8 49 24	
May	26	49.27	
June	10	49.22	+19 57 57.08
	14	49.21	
	18	49.16	
September	11	49.23	58.83
	12	49.23	58.76
November	8		57.21

4 Libræ.

		R. A.	Dec.
		h. m. s.	° ′ ″
June	4	14 31 32.80	−24 21 19.26

α^2 Libræ.

June	10	14.42 35.36	
	14	35.40	
	18	35.28	

12 Libræ.

June	4	14 47 36.84	−23 55 41.63

β Ursæ Minoris.

June	10	14 51 11.12	
	14	11.78	
	18	11.14	

β Libræ.

June	14	15 8 56.70	
	17	56.70	− 8 49 34.55
	18	56.54	
	24	56.46	
August	15	56.52	− 8 49 32.73

α Coronæ Borealis.

June	4	15 28 20.08	
	14	20.29	
	17	20.14	
	18	20.29	

Weisse, XV, 637.

June	24	15 34 43.29	−15 4 8.06

α Serpentis.

August	15	15 36 53.25	6 54 3.93

β^1 Scorpii.

June	4	15 56 43 20	
	17	43.59	
	18	43.30	
	24	43.46	
August	15	43.54	−19 23 26.80

δ Ophiuchi.

June	17	16 6 29.02	− 3 18 6.27

α Scorpii.

June	17	16 20 13.19	−26 5 [33 18]
	24	13.12	
August	15	13.11	39.44
September	9	13.11	38.42

ε Ursæ Minoris.

January	25	17 1 31.18	

* Declination assumed as 1′ in error.

α Herculis.

	R. A.	Dec.
	h. m. s.	° ′ ″
September 9	17 7 48.65	

α Ophiuchi.

	R. A.	Dec.
September 9	17 27 58.45	+12 4 26.34
20	58.34	25.52
November 11	58.33	25.91

γ Draconis.

	R. A.	Dec.
August 13	17 53 (7.96)	
September 17	7.50	+51 30 28.29
20	7.35	[32.88]
November 11	7.13	29.11

μ¹ Sagittarii.

	R. A.	Dec.
August 13	18 4 (48.05)	
September 17	47.74	−21 5 38.02
20	47.54	35.19

δ Ursæ Minoris.

	R. A.	Dec.
January 24	S. P. 18 20 42.80	
31	S. P. 42.77	
February 6	S. P. 43.30	
7	S. P. 42.33	+86 35 46.89
12	S. P. 41.62	47.48
17	S. P. 43.93	
18	S. P. 44.42	48.22
22	S. P. 45.07	49.44
25	S. P. 43.59	
March 13	S. P. 45.33	45.68
August 15		48.54
27		49.69

α Lyræ.

	R. A.	Dec.
August 13	18 31 51.50	
September 20	51.75	
October 3	51.50	
7	51.60	
11	51.61	
17	51.59	
November 29	18 31 51.58	

β Lyræ.

	R. A.	Dec.
August 13	18 44 32.44	
29		+33 11 34.46
October 3	32.39	29.25
7	32.67	
11	32.64	

ζ Aquilæ.

	R. A.	Dec.
August 13	18 58 31.04	+13 38 38.54
29	30.95	37.07
October 3	30.91	40.79
11	31.07	
20	31.13	
22	31.15	

δ Aquilæ.

	R. A.	Dec.
	h. m. s.	° ′ ″
August 13	19 17 56.13	+ 2 49 18.35
26		14.50
29	56.24	
September 4	56.40	11.16
October 3	56.12	10.74
11	56.30	12.91
20	56.24	10.01

h² Sagittarii.

	R. A.	Dec.
October 2	19 27 34.69	−25 12 34.22
3	34.51	

Anonyma.

	R. A.	Dec.
October 11	19 33 6.15	−23 37 3.67

ε² Sagittarii.

	R. A.	Dec.
October 3	19 33 56.15	−16 28 17.09

γ Aquilæ.

	R. A.	Dec.
August 13	19 39 7.61	+10 15 3.03
29	7.65	
September 3		15 6.76
4	7.75	15 4.39

α Aquilæ.

	R. A.	Dec.
August 13	19 43 27.84	+ 8 28 39.28
29	27.81	
September 3		34.70
4	27.92	
17	27.90	
October 20	27.83	
27	27.89	

β Aquilæ.

	R. A.	Dec.
August 27	19 48 56.66	+ 6 2 6.08
September 3		+ 6 2 10.12
4	56.73	
17	56.68	
October 11	56.84	
20	56.69	
27	56.74	

α² Capricorni.

	R. A.	Dec.
August 26		−13 0 22.54
29	20 9 43.86	22.00
September 3		20.06
17	(43.29)	20.93
October 20	43.77	22.62

α Cygni.

	R. A.	Dec.
August 29	20 36 19.25	+44 44 48.48
September 3	19.14	
20	19.25	
November 7		46.61

ψ Capricorni.

	R. A.	Dec.
October 3	20 37 12.55	−25 48 22.29

61¹ Cygni.

	R. A.	Dec.
	h. m. s.	° ′ ″
September 17	21 0 10.91	+38 0 55.41

61² Cygni.

	R. A.	Dec.
September 17	21 0 12.17	

ζ Cygni.

	R. A.	Dec.
August 27	21 6 33.07	
10	33.27	

α Cephei.

	R. A.	Dec.
August 27	21 14 59.78	
September 17	60.30	
November 29	59.71	

β Aquarii.

	R. A.	Dec.
September 17	21 23 39.87	
26	39.61	− 6 13 41.59
October 4	39.53	42.67

β Cephei.

	R. A.	Dec.
November 29	21 26 41.99	

γ Capricorni.

	R. A.	Dec.
October 4	21 31 46.31	

ε Pegasi.

	R. A.	Dec.
August 27	21 36 49.05	+ 9 11 26.69
September 17	49.56	23.32
October 1		24.84
10	49.40	25.21
November 22	49.25	

δ Capricorni.

	R. A.	Dec.
November 21	21 38 45.37	

α Aquarii.

	R. A.	Dec.
November 11		− 1 2 51.15
22	21 58 4.74	
29		

α Gruis.

	R. A.	Dec.
August 27	21 58 45.07	
September 17	45.76	
26	45.60	−47 41 12.40
October 4		8.44
9	45.39	14.33
10	45.49	7.15
November 7		10.23
29	46.00	

λ Australis.

	R. A.	Dec.
September 17	22 5 48 38	−28 30 31.91

δ Aquarii.

	R. A.	Dec.
	h. m. s.	° ′ ″
November 29	22 8 55.43	

σ Aquarii.

November 29	22 22 42.77	

ζ Pegasi.

October 3	22 33 59.26	
November 22	59.00	

α Piscis Australis.

September 17	22 49 21.23	−30 24 58.62
26	21.08	59.60
October 2	21.25	
3	21.36	56.01
9	21.21	57.64
10	21.24	57.51

α Piscis Australis. (Continued.)

	R. A.	Dec.
	h. m. s.	° ′ ″
11	21.19	55.25
20	21.20	
November 22	21.22	
29	21.51	
December 11	21.23	
19	21.16	

α Pegasi.

September 26	22 57 16.76	+14 23 57.59
October 1		55.58
4		57.63
9	17.57	58.64
10	17.54	58.16
11	17.54	60.05
22	17.47	
November 29	17.71	
5	17.49	
11	17.55	
December 19	17.51	
23	22 57 17.49	

ι Piscium.

	R. A.	Dec.
	h. m. s.	° ′ ″
September 17	23 32 14.66	4 48 52.10
26	14.48	47.60
October 1		47.54
3	14.38	
9		47.73
10	14.32	
November 11		49.30

γ Cephei.

March 24	L. C. 23 33 13.71	
28	L. C. 13.15	
December 5	14.24	
19	23 33 13.77	

33 Piscium.

October 8		− 6 32 48.07

MEAN RIGHT ASCENSIONS AND DECLINATIONS

FOR

1850.0

OF

STARS OBSERVED WITH THE MERIDIAN CIRCLE,

IN

1852.

α Andromedæ.

		R. A.	Dec.
		h. m. s.	° ′ ″
October	8	0 0 38.51	
	11	38.45	
November	9	38.62	+28 15 44.43

γ Pegasi.

October	11	0 5 30.95	+14 21 5.85
November	12	31.00	

α Cassiopeæ.

October	21	0 32 1.47	
November	9	1.46	+55 42 47.55

20 Ceti.

September	28	0 45 20.75	— 1 57 37.89

α Ursæ Minoris. (Polaris.)

March	3	1 4 58.82	+88 30 33.81
	11	59.13	
	12	62.38	
April	1		29.52
	7		34.92
	15 S. P.	61.44	41.86
	23 S. P.	64.86	(43.16)
	23	65.04	35.53
	26		38.65
	28		35.19
May	1		36.81
	2		29.28
	3 S. P.	61.14	
	3	59.80	36.70
	6		33.04
	16		34.73
	18 S. P.		(10.11)
June	5 S. P.		40.74
July	7 S. P.		34.29
	8 S. P.		33.78
	19 S. P.		36.56
September	23 S. P.	57.74	32.26
	28 S. P.	60.74	33.59
October	1 S. P.		40.55
	5 S. P.		32.04
	6 S. P.	60.52	
	8		39.02
	9 S. P.		40.31
	10 S. P.		33.91
	11		38.81
	21 S. P.	57.78	34.41
November	8	64.24	34.04
	9	60.79	34.64
	9 S. P.		38.11
	10 S. P.	59.31	37.92
	10	60.34	32.06
	12	59.12	34.25

μ Piscium.

September	28	1 22 19.84	+ 5 22 8.04

ν Piscium.

September	28	1 33 37.81	+ 4 43 37.83

α Arietis.

May	2	1 58 43.49	+22 45 1.01
	6	43.33	3.46
September	28	43.67	3.88
November	10	43.60	4.60

Anonyma.

		R. A.	Dec.
		h. m. s.	° ′ ″
November	12	2 13 8.64	+62. 3 18.22

Anonyma.

November	12	2 14 0.00	+62. 3 7.62

γ Ceti.

September	28	2 35 31.77	+ 2 36 9.71
December	1	31.69	1.33

α Ceti.

September	28	2 54 26.43	+ 3 29 57.51
December	1	26.62	52.51

α Persei.

April	27	3 13 38.37	+49 19 15.95
May	3	38.01	16.03
June	4	38.27	18.77
December	1	38.39	21.62

η Tauri.

December	1	3 38 34.56	+23 38 15.11

α Tauri.

April	27	4 27 19.10	+16 12 11.12
May	1	19.08	11 06
	5	19.01	8.26
	7	19.08	

α Aurigæ.

March	10	5 5 36.83	+45 50 20.87
	12	36.91	23.04
	15		18.52
April	24	37.05	18.63
	27	36.80	16.69
May	4	36.95	

β Orionis.

May	1	5 7 19.79	— 8 22 47.48
	3	19.89	49.76
	5	(19.31)	48.67

β Tauri.

March	15		+28 28 28.65
May	1	5 16 48.80	30.91
	3	48.58	26.37
	5	48.76	30.25
	7	48.77	

δ Orionis.

July	9	5 24 20.75	— 0 24 53.16

γ^1 Eridani.

December	1	3 51 1.99	—13 56 19.65

ε Orionis.

		R. A.	Dec.
		h. m. s.	° ′ ″
March	10	5 28 36.18	
May	1	36.13	— 1 18 8.71
	3	36.19	17.25
	5	36.25	13.39

α Columbæ.

March	10	5 34 13.17	—34 9 26.46

α Orionis.

February	9	5 47 3.19	+ 7 22 28.38
March	15		27.22
May	5	3.15	25.94
	7	3.14	(44.92)
June	5	3.04	20.81
July	9	3.11	28.59
	22	2.78	28.86

μ Geminorum.

February	9		+22 35 11.71
March	3	6 13 53.08	7.49

51 (Hev.) Cephei.

February	9	6 28 33.27	+87 15 17.30
March	10		24.31
July	19 S. P.	31.86	

α Canis Majoris.

March	3		—16 30 51.39
May	21	6 38 32.28	50.21
June	3	32.31	49.02
	5	32.39	55.58
July	20	32.30	
	22	32.41	49.88
	27	32.37	
	28	32.33	51.95

ε Canis Majoris.

February	9	6 52 43.77	—28 46 19.16
March	3		16.93
April	13	44.02	11.80
May	21	43.90	—28 46 18.61
June	5	43.95	23.93
July	28	43.80	—28 46 16.63

δ Geminorum.

February	9	7 11 9.63	+22 15 15.37
March	3		12.33
	10	9.58	14.25
April	13	9.52	10.23

α^2 Geminorum.

February	9		+32 12 44.96
March	3	7 25 1.26	44.30

α Canis Minoris.

March	10	7 31 26.96	+ 5 36 19.13
June	3	26.79	
July	20	26.53	17.86
	22	26.77	19.20

β Geminorum.

		R. A.	Dec.
		h. m. s.	° ′ ″
February	9	7 36 7.82	+28 22 62.65
March	3	7.72	63.73
	10	7.78	
	15		61.88
June	3	7.76	61.80

15 Argus.

March	3	8 1 9.50	−23.52 28.74

δ Cancri.

March	3	8 36 9.33	+18 42 8.88

ε Hydræ.

March	6	8 38 49.75	

α Cancri.

March	3	8 50 16 68	+12 25 59.97

α Hydræ.

May	6	9 20 13.01	− 8 0 43.23
	18		43.60
July	9	13.00	40.39
	15	12.88	8 0 43.72

ζ Leonis.

March	3	9 23 51.36	+11 57 25.91

o Leonis.

March	3	9 33 8.45	+10 34 15.71

ε Leonis.

April	7		+24 27 45.32
	15		42.75
May	6	9 37 19.66	27 45.51
	18		27 45.75

19 Leonis Minoris.

April	7		+41 46 1.91

α Leonis.

March	3	10 0 22.78	+12 41 49.78
	31		52.10
April	7		51.98
May	6	22.72	54.36
	7	22.69	55.24
July	9	22.50	54.92
	21	22.58	56.15
	23	22.73	
	24	22.64	52.89
	28	22.68	55.76

Anonymous.

April	15	10 12 6.93	− 5 35 33.41

μ Ursæ Majoris.

		R. A.	Dec.
		h. m. s.	° ′ ″
March	25	10 13 22.60	

β Leonis Minoris.

March	31		+37 28 26.09

37 Leonis Minoris.

March	25	10 30 16.02	

Weisse, X, 538.

March	3	10 29 58.10	−10 16 4.15

υ Hydræ.

March	25	10 42 13.59	

α Ursæ Majoris.

March	31		+62 33 39.14
April	7		32.56
	23	10 54 25.44	32.41
May	1		37.63
June	10	25.57	
July	23	25.65	35.51
	24	25.75	33.97
	29	25.73	34.27
October	10	25.89	

δ Leonis.

April	7		+21 20 41.10
	15		38.56
May	7	11 6 7.41	42.33
September	30	7.34	42.09

42 Leonis Minoris.

April	7		+31 28 14.53
	15		10.52

δ Hydræ et Crateris.

March	31		−13 58 13.34
May	6	11 11 50.77	

Anonymous.

April	23	11 30 54.09	−35 53 37.14

λ Draconis.

May	3	11 22 26.21	+70 10 13.71

Anonymous.

April	15	11 25 37.92	−31 0 42.99

ζ Crateris.

May	3	11 37 10.19	−17 28 12.84

β Leonis.

		R. A.	Dec.
		h. m. s.	° ′ ″
April	15	11 41 24.45	+15 24 35.88
	23	24.35	
September	27	24.08	43.33
	30	(24.78)	
October	4	24.26	
	8	24.48	39.71

21 θ Crateris.

March	31		− 8 58 24 40

γ Ursæ Majoris.

March	31		diff. star
April	7		+53 31 44.17
May	5	11 45 54.75	34.50

Anonymous.

April	23	11 51 23.48	+24 44 22.66

π Virginis.

March	31		+ 7 27 3 39

Anonymous.

April	15	12 11 58.67	

η Virginis.

April	15	12 12 13.81	+ 11 6.53

4 Corvi.

May	5	12 8 6.02	−16 42 40.26

Anonymous.

April	23	12 26 38.20	+22 33 5.97
	23	12 34 3.40	+22 33 40.20

β Corvi.

May	3	12 26 31.18	−22 34 11.34

Comp. 12 Can. Venat.

April	23	12 49 58.99	
May	3	59.13	
	13	58.76	

12 Canum Venaticorum.

April	9		+39 7 44.82
	15	12 49 0.00	42.06
	23	0.24	43.48
May	3	0.42	39.17
	13	0.22	

α Virginis.

		R. A.	Dec.
		h. m. s.	° ′ ″
April	9		−10 22 37.33
	15	13 17 17.63	36.34
May	3	17.91	46.60
	6	17.81	
	13	17.82	39.58
	25	17.62	34.16
	31	17.61	45.34
June	5		41.71
July	9	17.85	36.63
September	28	17.78	35.93

B. A. C., 4568.

July	9	13 35 2.47	+55 26 32.49

B. A. C., 4547.

April	23	13 30 2.12	− 2 29 9.11

η Ursæ Majoris.

April	9		+50 3 50.71
	15	13 41 37.46	52.07
	23	37.34	47.10
May	13	37.37	46.34
June	5	37.29	43.96
	14	37.43	54.67
July	22	37 12	48.25
	23	37.65	47.50
	29	37.45	48.65

η Bootis.

April	9		+19 9 7.01
July	9	13 47 32.58	6.91
	29	32.43	6.19
September	28	32.36	9.01
November	10	32.43	5.49

Anonymous.

July	22	13 59 12.44	−35 37 50.44

B. A. C., 4686.

June	10	13 57 52.49	−35 38 41.17

κ Virginis.

July	24	14 4 53.84	− 9 34 21.54

α Draconis.

April	23	14 0 19.66	+65 5 38.29

α Bootis.

May	13	14 8 49.08	+19 57 45.38
June	5	49.22	48.02
July	9	48.97	57.06
	21	49.16	56.93
	22	49.30	57.51
	29	49.20	56.92
September	22		64.42
	28	49.31	57.52
October	6	49.27	
	11	49.09	57.40
November	9	48.88	57.10

ε Bootis.

		R. A.	Dec.
		h. m. s.	° ′ ″
June	5	14 38 26.12	+27 42 29.81
July	9	26.17	33.57
	21	26.38	32.30
	23	(26.89)	
	24	26.11	34.00
	29		

B. A. C., 4763.

June	10	14 14 27.93	−27 31 52.35

Anonymous.

June	10	14 14 46.94	

λ Virginis.

July	24	14 10 59.96	−12 40 40.46

B. A. C., 4784.

July	9	14 19 24.19	−28 51 47.55

α^1 Libræ.

June	10	14 42 23.84	

α^2 Libræ.

June	10	14 42 35.46	
	11		
	23	35.25	
July	29		−15 24 54.81

β Ursæ Minoris.

July	29	14 51 11.63	
September	28	12.35	+74 46 8 12
November	10	11.43	

β Libræ.

May	31	15 8 56.50	− 8 49 38.35
June	10	56 31	
	11	56.39	39.43
	15	56.32	34.88
	24	56.42	34.28
September	28	56.41	33.98

α Coronæ Borealis.

May	25	15 28 20.29	+27 13 17.93
June	15	20.03	17.48
September	28	20.37	23.29
October	11	20.28	
November	9	20.11	

α Serpentis.

June	15	15 36 52.97	
October	6	53.00	+ 6 54 5.58
	11	52.91	
November	10	52.91	

ζ Ursæ Minoris.

		R. A.	Dec.
		h. m. s.	° ′ ″
May	25	15 49 30.30	+78 15 8.29
July	9	31.83	11.00

β^1 Scorpii.

May	25	15 56 42.79	−19 23 26.87
October	6	43.08	

δ Ophiuchi.

October	11	16 6 29.23	− 3 18 15.33

Anonymous.

July	9	16 10 53.80	−18 27 35.55

Anonymous.

July	25	16 38 7.08	−19 49 19.37

α Scorpii.

October	11	16 20 12.94	
November	10	13.03	−26 5 36.56

ε Ursæ Minoris.

July	9	16 59 31.12	+82 18 33.06
	19	30.56	32.21
	25	31.83	26.21

β Draconis.

December	1	17 27 2.41	+52 24 51.27

α Ophiuchi.

July	28	17 27 58.42	
November	10	58.46	+12 40 25.97

γ Draconis.

July	19		+51 30 28.22
	21	17 53 7.93	29.86
September	22	7.29	
	30	7.39	
November	8	(6.48)	29.05
	10	7.31	
December	8	7.44	27.40

α′ Sagittarii.

July	19	18 4 47.60	
	21	47.83	−21 5 35.36
August	2	47.64	
September	22	47.71	5 31.11

δ Ursæ Minoris

July	19	18 20 41.94	
	21	41.65	+86 35 47.63
August	2	(43.76)	

α Lyræ.

	R. A.	Dec.
	h. m. s.	° ′ ″
July 21	18 31 51.44	
August 2	51.48	
November 10	51.54	+38 38 48.71
27	51.48	
December 8	51.45	

β Lyræ.

July 19	18 44(31.46)	+33 11 27.04
September 30	32.65	
December 8	32.43	29.97

ζ Aquilæ.

July 19	18 58 30.85	+13 38 39.39
December 8	30.91	37.99

δ Aquilæ.

July 19	19 17 55.96	+ 2 49 9.21
December 8	56.04	12.86

α Aquilæ.

December 8	19 43 27.80	

δ Aquilæ.

December 8	19 39 7.59	

β Aquilæ.

December 8	19 47 56.65	

α¹ Capricorni.

November 8	20 9 19.66	−12 58 5.32
10	19.72	

α² Capricorni.

November 8	20 9 43.63	−13 0 20.73
10	43.69	0 23.29

α Cygni.

March 3		+44 44 47.18
September 27	20 36 19.33	48.52
November 8	18.86	47.44
12	19.02	

61¹ Cygni.

September 27	21 0 10.53	+38 0 55.68
October 5	10.47	50.03
November 8	10.70	55.39

61² Cygni.

	R. A.	Dec.
	h. m. s.	° ′ ″
September 27	21 0 11.89	
October 5	11.91	
November 8	12.23	

ζ Cygni.

November 8	21 6 33.07	+29 36 53.74

α Cephei.

November 10	21 14 59.63	+61 57 6.89
12	59.52	57 1.72

β Aquarii.

September 27	21 23 39.54	− 6 13 38.15
29	39.52	40.79
November 27	39.47	

β Cephei.

October 8	21 26 42.65	+69 54 5.58
November 10	42.95	8.83
12	42.08	8.49

ε Pegasi.

November 12	21 36 49.08	+ 9 11 23.89
27	49.08	

Anonymous.

November 27	21 38 45.50	−13 5 30.29

α Aquarii.

October 1	21 58 4.56	− 1 2 44.89

α Gruis.

September 29	21 58 45 36	−47 40 52.23
30	45.49	63.00
October 8	45.69	
November 8	45.49	
10	45.64	−47 40 54.70
12	45 68	40 68.03

λ Australis.

October 21	22 5 48.33	−28 30 33.19

Anonymous.

October 21	22 31 31.42	−14 50 11.85

Anonymous.

	R. A.	Dec.
	h. m. s.	° ′ ″
October 21	22 31 34.28	−14 50 43.22

ζ Pegasi.

October 1	22 33 58.90	+10 3 1.85
8	59.07	

Anonymous.

September 30	22 34 52.20	−22 26 24.11

Anonymous.

September 30	22 35 58 38	−22 25 2.39

α Piscis Australis.

September 27	22 49 20.97	
30	20.92	
October 8	20.74	−30 24 60.24
November 27	21.22	

α Pegasi.

September 27	22 57 17.38	+14 24 2.54
30	17.29	
October 2	17.47	
8	17.56	23 59.34
November 27	17.53	

Anonymous.

October 11	23 13 2.71	−19 20 41.49

B. A. C., 8160.

November 9	23 17 54.03	+22 34 46.27

Lalande, 45704.

October 21	23 13 2.69	−19 21 47.58

ι Piscium.

October 11	23 32 14.25	+ 4 48 53.25
21	14.22	
November 12	14.21	48.34

γ Cephei.

October 8	23 33 14.37	+76 47 2.18

27 Piscium.

September 27	23 50 59.46	− 4 23 10.81

Anonymous.

October 21	22 58 3.25	−11 14 43.73

RIGHT ASCENSIONS AND SEMIDIAMETERS

OF THE

SUN, MOON, AND PLANETS,

OBSERVED WITH

THE TRANSIT INSTRUMENT,

IN

1851.

SUN.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
1851.		h. m. s.	h. m. s.	s.	s.	s.	s.
November 21		15 46 23.02	15 46 23.29	— 0.27	69.24	69.21	— 0.03

MOON.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
January 13	I.	4 13 2.68	4 13 3.47	— 0.79			
March 11	I.	6 20 24.16	6 20 24.90	0.74			
13	I.	8 26 55.39	8 26 56.34	0.95			
14	I.	9 30 35.62	9 30 36.69	1.07			
April 9	I.	8 2 55.15	8 2 56.56	1.41			
11	I.	10 5 25.48	10 5 26.67	1.19			
June 7	I.	12 18 41.32	12 18 42.18	0.86			
9	I.	14 6 47.17	14 6 47.95	0.78			
August 6	I.	17 12 33.55	17 12 33.79	0.44			
September 4	I.	18 46 54.52	18 46 54.77	0.25			
October 6	I.	22 47 22.07	22 47 22.71	0.64			
November 7	I. II.	2 21 57.45	2 21 59.02	— 1.57	62.56	62.67	+ 0.11
December 1	I.	23 45 48.54	23 45 47.90	+ 0.64			
5	II.	2 51 10.26	2 51 10.54	— 0.28			
10	II.	7 33 46.74	7 33 46.63	+ 0.11			

VENUS.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
January 14	II.	17 12 12.21	17 12 10.70	+ 1.51			
November 21		16 42 20.06	16 42 18.73	1.33	0.50		
December 16		18 59 4.22	18 59 1.98	+ 2.24			

METIS.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
February 22		9 22 22.33					
26		9 18 55.75					
March 3		9 15 10.54					
13		9 9 53.25					

IRENE.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
June 14		15 40 45.98					
18		15 38 18.20					

VESTA.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
June 18		17 0 19.02	17 0 25.02	— 6.00			
July 2		16 48 41.00	16 48 46.29	5.29			
5		16 46 49.67	16 46 55.35	6 32			
17		16 42 15.99	16 42 21.00	— 5.01			

IRIS.

Date.	Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semidiameter Passing. Observed.	Sidereal Time of Semidiameter Passing. Computed.	Sidereal Time of Semidiameter Passing. C — O.
1851.		h. m. s.	h. m. s.	s.	s.		
September 17		23 58 23.45					
October 6		23 43 42.20					
10		23 41 4.66					
16		23 37 54.28					
November 17		23 42 47.63					
December 18		0 16 33.09					

JUPITER.

May 26		12 51 33.04	12 51 31.90	+ 1.14	1.39		

URANUS.

December 18		1 54 39.42	1 54 50.83	—11.41			

NEPTUNE.

October 6		22 35 59.40	22 35 59.52	— 0.12			
8		22 35 50.11	22 35 50.16	0.05			
10		22 35 41.16	22 35 41.27	0.11			
16		22 35 16.70	22 35 16.73	— 0.03			
November 11		22 34 14.67	22 34 14.57	+ 0.10			
17		22 34 11.76	22 34 11.69	+ 0.08			
21		22 34 12.32	22 34 12.33	— 0.01			
28		22 34 18.57	22 34(15.20)				

RIGHT ASCENSIONS AND SEMIDIAMETERS

OF THE

SUN, MOON, AND PLANETS,

OBSERVED WITH

THE TRANSIT INSTRUMENT,

IN

1852.

SUN.

Date.		Limb Observed.	Right Ascensions. Observed.	Right Ascensions. Computed.	Right Ascensions. C — O.	Sidereal Time of Semi-diameter Passing. Observed.	Sidereal Time of Semi-diameter Passing. Computed.	Sidereal Time of Semi-diameter Passing. C — O.
1852.			h. m. s.	s.	s.	s.	s.	s.
February	9		21 30 21.34	20.96	— 0.38	67.50	67.31	— 0.19
	25		22 32 19.25	20.92	+ 1.67	65.78	65.69	0.09
April	23		2 5 41.15	41.70	+ 0.55	65.52	65.44	0.08
May	1		2 35 58.99	58.67	— 0.32	66.10	66.03	0.07
	3		2 43 38.20	38.21	+ 0.01	66.24	66.19	— 0.05
	5		2 51 20.19	19.90	— 0.29	66.33	66.35	+ 0.02
	7	II.	2 59 3.93	3.83	— 0.10			
	21		3 54 17.18	17.12	— 0.06	67.78	67.64	— 0.14
	25		4 10 24.08	22.58	— 1.50	67.92	67.92	0.00
June	5		4 55 18.24	18.37	+ 0.13	68.72	68.57	0.15
	19		5 53 21.33	21.06	— 0.27	68.97	68.90	0.07
	21		6 1 40.64	40.35	— 0.29	68.98	68.90	— 0.08
	25		6 18 18.13	18.11	— 0.02	69.65	68.85	+ 0.20

MOON.

March	1	I.	7 7 24.06	24.87	+ 0.81			
	2	I.	8 9 24.34	25.26	+ 0.92			
	3	I.	9 12 1.95	3.45	+ 1.50			
June	26	I.	14 15 31.63	32.20	+ 0.57			
July	27	I.	17 51 36.61	37.06	+ 0.45			

MERCURY.

June	16	I.	4 47 30.84					

VENUS.

February	9		23 31 40.25			0.42	0.42	0.00
	25		0 42 10.64			0.39	0.43	+ 0.04
June	17	I.	8 27 24.49					
	19	I.	8 30 13.28					
	25	I.	8 35 23.45					

MARS.

				s.	s.			
March	3		7 48 52.56	51.70	— 0.86	0.66	0.39	
	18	I.	7 53 43.15	42.32	— 0.83			

JUPITER.

April	13	I.	15 16 32.16	32.28	+ 0.12			
June	9	I.	14 50 13.14	12.17	— 0.97			
	26		14 45 51.21	50.32	— 0.89	1.40	1.46	+ 0.06

APPARENT DECLINATIONS

OF THE

MOON AND PLANETS,

OBSERVED WITH

THE MURAL CIRCLE,

IN

1851.

MOON.

Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.	Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.
1851.		° ′ ″	″	1851.		° ′ ″	″
March 14	S. L.	+ 16 44 0.2		October 3	S. L.	− 20 28 28.4	
June 7	S. L.	+ 3 38 1.7		4?	S. L.?	− 18 15 49.0	
9	S. L.	− 6 50 57.6		8	S. L.	− 3 1 21.6	
September 4	S. L.	− 22 42 42.2		December 5	S. L.	+ 11 34 28.1	
October 2	S. L.	− 21 42 43.0					

VENUS.

December 16	S. L.	− 24 2 40.7		December 19	N. L.	− 23 41 22.1	17.51
17	S. L.	− 23 56 17.2	15.98	19	S. L.		
17	N. L.			20	N. L.	− 23 32 48.3	17.71
18	N. L.	− 23 49 9.7	17.74	20	S. L.		
18	S. L.			23	N. L.	− 23 2 53.4	13.73
				23	S. L.		

JUPITER.

April 22	S. L.	− 4 57 35.9		June 4	N. L.	− 3 52 26.2	
May 26	N. L.	− 3 56 25.6					

SATURN.

December 13	S. L.	+ 8 12 24.1		December 20	S. L.	+ 8 10 33.7	26.24
14	S. L.	+ 8 12 4.3	23.49	20	N. L.		
14	N. L.			26	N. L.	+ 8 10 39.7	22.56
18	S. L.	+ 8 10 55.1	27.53	26	S. L.		
18	N. L.						

URANUS.

December 13		+ 11 14 30.0		December 26		+ 11 10 24.3	

NEPTUNE.

October 6		− 9 45 55.6		November 6		− 9 55 11.5	
8		− 9 46 53.2		7		− 9 55 20.6	
9		− 9 47 16.1		11		− 9 55 41.7	
10		− 9 47 39.9		17		− 9 55 50.7	
11		− 9 48 6.5		21		− 9 55 42.7	
13		− 9 48 53.3		22		− 9 55 36.5	
14		− 9 49 16.6		27		− 9 55 5.5	
15		− 9 49 39.0		28		− 9 54 32.5	
16		− 9 50 2.0		29		− 9 54 53.8	
17		− 9 50 24.2		December 5		− 9 53 33.2	
27		− 9 53 19.9					

HYGEA.

Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.	Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.
1851.		° ′ ″		1851.		° ′ ″	
September 30		+ 6 38 12.6		October 10		+ 5 57 33.8?	
October 3		+ 6 24 3.5		13		+ 5 39 20.3	
6		+ 6 9 56.4?		December 20		+ 3 55 16.5?	

IRENE.

June 10		− 14 12 42.2		June 17		− 14 35 49.2	
13		− 14 22 9.6		18		− 14 39 23.2	
14		− 14 25 27.1		24		− 15 2 27.5	
16		− 14 32 16.6		July 2		− 15 36 4.1	

IRIS.

September 17		+ 12 1 58.9		October 14		+ 9 14 12.7	
26		+ 11 14 21.6		15		+ 8 58 19.2	
30		+ 10 47 57.2		16		+ 8 48 24.3	
October 1		+ 10 41 0.4		27		+ 7 32 7.9	
3		+ 10 26 38.2		November 11		+ 6 20 47.7?	
4		+ 10 19 20.6		11		+ 6 20 31.6?	
6		+ 10 4 28.0		17		+ 6 7 37.0?	
8		+ 9 49 18.6		28		+ 6 15 7.1?	
9		+ 9 41 41.6		December 1		+ 5 58 2.0?	
10		+ 9 34 3.6		18		+ 7 1 7.3?	
11		+ 9 26 24.5		20		+ 7 9 39.5?	
13		+ 9 17 5.4		26		+ 7 42 12.8?	

JUNO.

June 14		− 4 14 45.1		June 19		− 4 12 7.9	
18		− 4 12 19.5					

VESTA.

June 9		− 17 10 40.4		June 18		− 17 38 57.2	
10		− 17 13 35.6		19		− 17 42 21.3	
14		− 17 25 51.3		24		− 18 0 5.1	
16		− 17 32 18.1		July 2		− 18 30 47.3	

The observations of the Asteroids are not corrected for Parallax.

APPARENT DECLINATIONS

OF THE

SUN, MOON, AND PLANETS,

OBSERVED WITH

THE MURAL CIRCLE,

IN

1852.

SUN.

Date.		Limb Observed.	Apparent Declination.	Vertical Diameter.	Date.		Limb Observed.	Apparent Declination.	Vertical Diameter.
1852.			° ′ ″		1852.			° ′ ″	
May	19	S.	+ 19 54 27.1		July	3	S.	+ 22 55 48.2	
	20	N.	+ 20 6 59.4			5		+ 22 44 55.3	
	21		+ 20 19 6.8			6		+ 22 38 50.3	
	22	S.	+ 20 30 21.9			9		+ 22 18 19.7	
	24		+ 20 53 26.0			10		+ 22 10 44.4	
	25		+ 21 4 10.5			15		+ 21 27 0.4	
	26	N.	+ 21 14 30.6			19		+ 20 45 29.0	
	28	N.	+ 21 34 6.9			20		+ 20 34 11.0	
	31	N.	+ 22 1 49.0			21		+ 20 22 30.1	
June	1		+ 22 7 55.1			22		+ 20 10 33.2	
	2		+ 22 16 37.8			23		+ 19 58 15.0	
	3		+ 22 23 56.7			24		+ 19 45 36.2	
	5		+ 22 37 29.0			27		+ 19 5 45.7	
	7		+ 22 49 22.2			29		+ 18 37 36.5	
	9		+ 22 59 41.8			30		+ 18 23 4.2	
	10		+ 23 4 16.2		August	2		+ 17 37 40.3	
	11		+ 23 8 27.6		October	5		— 4 58 41.8	
	12	N.	+ 23 12 11.5			11	S.		
	14		+ 23 18 29.0			21		— 10 56 12.7	
	16		+ 23 23 5.5			23		— 11 38 29.2	
	17		+ 23 24 47.1		November	10		— 17 20 41.1	
	19		+ 23 26 58.0		December	1		— 21 25 37.6	
	21	S.	+ 23 27 23.7			8		— 22 48 29.6	
	23		+ 23 26 18.5			29		— 23 12 15.3	
	25		+ 23 23 25.5			30		— 23 9 9.4	
	26		+ 23 21 23.4						

MOON.

February	26	S.	+ 14 32 29.8		July	27		— 23 33 23.1	

MERCURY.

May	20	N.	+ 10 32 47.6		July	7		+ 22 50 50.9	
June	1	N.	+ 14 27 22.2			8		+ 22 28 10.8	
	4		+ 15 52 20.7			9		+ 22 8 37.8	
	8		+ 17 52 52.5			10		+ 21 37 26.7	
	9		+ 18 23 32.5			19		+ 16 47 31.8	
	10		+ 18 54 6.4			20		+ 16 11 21.7	
	11		+ 19 24 30.5			21		+ 15 34 41.3	
	13		+ 20 23 53.3			23		+ 14 20 28.2	
	14		+ 20 52 34.1			24		+ 13 43 0.7	
	15		+ 21 20 21.1			27		+ 11 50 16.4	
	16		+ 21 47 1.2			28		+ 11 12 45.2	
	18		+ 22 36 8.8		October	4		+ 0 25 22.1	
July	6		+ 23 11 32.3		November	10		— 22 15 15.6	

VENUS.

April	24		+ 25 51 18.5		May	21		+ 25 34 17.0	
	27		+ 26 11 9.0			22		+ 25 26 11.8	
May	1		+ 26 28 20.4			25		+ 24 59 16.2	
	6		+ 26 36 4.7			26		+ 24 49 29.2	
	7		+ 26 36 15.4		June	1		+ 23 43 33.6	
January	16		— 15 41 0.1			3		+ 23 19 9.0	
May	19		+ 25 49 10.2			5		+ 22 53 47.8	
	20		+ 25 41 56.5			7		+ 22 27 36.5	

VENUS (Continued).

Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.	Date.	Limb Observed	Apparent Declination.	Vertical Diameter.
1852.				1852.			
		° ′ ″				° ′ ″	
June 9		+ 22 0 40.3		July 7		+ 16 3 58.3	
10		+ 21 47 2.3		8		+ 15 55 3.1	
11		+ 21 33 16.6		9		+ 15 46 31.4	
12		+ 21 19 24.1		10		+ 15 38 28.6	
14		+ 20 51 29.8		12		+ 15 23 49.0	
16		+ 20 23 24.1		24		+ 14 35 26.5	
17		+ 20 9 22.2		29		+ 14 34 23.5	
19		+ 19 41 26.0		August 5		+ 14 50 18.0	
25	N.	+ 18 19 15.1		7		+ 14 53 21.6	
25	S.	+ 18 19 42.4		11		+ 15 10 31.4	
26		+ 18 7 3.0		13		+ 15 14 10.0	
July 1		+ 17 6 3.5		14		+ 15 17 48.2	
1		+ 16 54 45.5		October 8		+ 10 49 40.1	
3		+ 16 43 53.1		20		+ 7 0 56.3	

MARS.

February 4		+ 24 33 37.4		March 15		+ 24 18 27.1	
25		+ 25 0 41.0		18		+ 24 7 46.8	
January 16		+ 22 44 58.2		24		+ 23 43 29.0	
29		+ 24 5 58.3		25		+ 23 44 4.6	
February 3		+ 24 29 30.1		April 15		+ 21 42 54.2	
9		+ 24 49 14.0		June 26		+ 9 21 26.9	
19		+ 25 2 33.2		July 3		+ 7 44 31.6	
March 10		+ 24 34 3.6					

JUPITER.

June 5		− 15 13 51.9		June 29		− 14 51 47.3	
6		− 15 12 22.4		July 2		− 14 51 3.8	
9		− 15 8 20.7		3		− 14 50 58.9	
10		− 15 7 1.0		7		+ 14 51 1.3	
11		− 15 5 46.1		8		+ 14 51 9.6	
12		− 15 4 36.7		15		− 14 53 39.6	
21		− 14 55 58.3		19		− 14 56 17.5	
25		− 14 53 26.6		23		− 14 59 45.9	
26		− 14 52 56.9					

SATURN.

January 14		+ 8 20 5.3		December 17		+ 12 57 49.6	
December 13		+ 13 0 26.9		29		+ 12 53 16.2	

URANUS.

January 14		+ 11 9 37.3					

NEPTUNE.

October 2		− 8 51 57.6					

EUNOMIA.

Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.	Date.	Limb Observed.	Apparent Declination.	Vertical Diameter.
1852.				1852.			
March 24		— 25° 17′ 4.″2				° ′ ″	

IRENE.

November 12		— 18 58 31.4					

JUNO.

October 16		— 7 51 58.7		October 20		— 8 48 25.1	

MELPOMENE.

August 3		— 11 51 20.6		August 12		— 12 57 52.9	
6		— 12 13 21.4		14		— 13 12 52.8	

APPARENT PLACES

OF THE

MOON AND PLANETS,

OBSERVED WITH

THE MERIDIAN CIRCLE,

IN

1851.

MOON.

MEAN TIME — WASHINGTON.		α	δ	MEAN TIME — WASHINGTON.		α	δ
1851	h. m. s.	h. m. s.	° ′ ″	1851.	h. m. s.	h. m. s.	° ′ ″
February 7	4 55 32.0	2 5 13.53		October 4	8 17 11.8	21 9 42.98	− 18 15 47.46
March 13	9 4 30.0	8 28 55.28		8			− 3 2 11.64
June 7	7 15 30.0	12 18 41.38	+ 3 6 13.09	November 28	4 52 40.7	21 21 28.83	
10	9 46 10.7	15 1 36.20		29	5 38 57.1	22 11 49.34	
October 2	6 39 16.6	19 23 38.64		December 5	9 53 56.4	2 51 9.91	
3	7 29 19.6	20 17 46.34	− 20 28 24.79				

VENUS.

November 11			− 20 3 24.34				

VESTA.

June 14			− 17 25 56.81				

IRENE.

June 14			− 14 25 31.28	June 24	9 24 47.5	15 35 21.23	− 15 2 31.71
18	9 51 18.6	15 38 17.38	− 14 39 28.90				

IRIS.

September 17	12 12 49.2	23 58 57.74	+ 11 59 5.79	October 9		23 41.96	+ 9 41 38.15
20	11 57 30.1	23 55 25.81	11 49 8.81	10		23 4.71	9 34 0.42
26	11 27 57.7	23 49 27.83	11 14 19.09	11			9 26 20.71
30			10 47 49.16	16			8 48 18.12
October 1			10 40 52.93	20		23 23.50	8 18 59.23
4		23 53.36	10 26 33.10	23			+ 7 58 2.17
6			10 4 22.93				

JUNO.

June 14			− 4 11 48.15				

HYGEIA.

September 30			+ 6 38 10.33	October 3			+ 6 24 2.76

SATURN.

MEAN TIME — WASHINGTON.		α	δ	MEAN TIME — WASHINGTON.		α	δ
1851.	h. m. s.	h. m. s.	° ′ ″	1851.	h. m. s.	h. m. s.	° ′ ″
December 19			+ 8 10 38.68				

NEPTUNE.

October 9	9 23 21.0	22 35 45.89	— 9 47 13.53	October 17			— 9 50 25.84
10	9 19 20.5	22 35 41.25	9 47 39.34	20	8 39 22.4	22 35 2.11	— 9 51 24.86
11	9 15 20.3	22 35 36.95	9 48 5.52				

APPARENT PLACES

OF THE

SUN, MOON, AND PLANETS,

OBSERVED WITH

THE MERIDIAN CIRCLE,

IN

1852.

SUN.

MEAN TIME — WASHINGTON.			α	δ	MEAN TIME — WASHINGTON.			α	δ
1852.		h. m. s.	h. m. s.	° ′ ″	1852.		h. m. s.	h. m. s.	° ′ ″
April	27		2 20 46.64		July	24		8 16 28.96	+19 45 40.28
May	3		2 43 38.61	+ 15 51 53.53		28		8 32 14.01	18 51 54.64
June	5		4 55 18.75	22 37 28.96		29			+18 37 37.31
	9			23 0 43.56	September	23		12 2 53.97	
July	3			22 56 3.51		28		12 20 54.82	− 2 15 54.17
	6			22 34 47.18	October	1		12 31 46.08	− 3 26 0.57
	10		7 20 9.16	22 10 51.42		21		13 45 46 76 } 1 L.	−10 56 14.12
								46.01 } 2 L.	−17 20 37.89
	15		7 40 27.55	21 27 4.65	November	10		15 4 7 50	
	21		8 4 33.78	20 22 31.45		11		15 8 11.48	−17 37 38.15 } ?
									21.05 } ?
	22		8 8 32.84	20 10 37.85	December	1			−21 55 37.36
	23			+ 19 58 17.09		8		17 2 48.31	−22 48 24.31

MOON.

March	3	10 23 50.0	9 12 1.77		July	23	5 51 14.2	13 58 32 09	− 6 56 21.43
April	27	6 54 7.4	9 18 35.14			24	6 41 35.3	14 52 58.02	− 12 15 7.13
July	23			+ 12 51 9.14?	September	28	12 37 13.1	1 9 46.72	+ 2 10 27.03

MERCURY.

June	3	22 31 12.9	3 24 7.18	+ 15 51 17.78	July	21	1 35 12.6	9 33 55.31	+ 15 31 46.56
	8			17 52 52.24		23	1 39 5.2	9 45 41.62	14 20 31.95
	16			21 43 35.70		24	1 41 46.7	9 52 20.13	13 43 5.86
July	7			22 50 51.78		28	1 45 58.8	10 12 19.13	11 12 47.84
	8			22 28 9.12		29	1 47 33.5	10 17 10.68	10 35 27.69
	9			21 18 44.29	October	3	23 14 22.8	12 8 23.91	+ 0 27 39.30
	10	1 1 29.6	8 16 44 60	+ 21 37 27.82	November	10			− 22 15 9.96

VENUS.

March	11			+ 11 37 42.43	July	3			+ 16 43 51.84
May	1			26 28 22.41		7			16 4 0.57
	3	3 6 30.3	5 53 59.96	26 33 9.93		8			15 55 3.32
	4	3 7 6.2	5 58 32.50	26 34 44.33		9	1 14 23.4	8 25 43.99	15 45 32.05
	7	3 8 43.6	6 11 59.81	26 35 35.88		10	1 8 34.8	8 23 50.95	15 38 29.58
June	3	3 5 32.1	7 55 14.88	23 21 10.10		15	0 38 58.7	8 13 52.80	15 6 14.38
	5			22 53 43.48		22	23 45 51.0	7 52 8.86	14 37 1.24
	7			22 12 31.37		23	23 39 22.5	7 49 35.80	14 35 30.11
	15	2 52 4.9	8 29 4.13	20 34 0.12		28	23 9 7.9	7 38 59.05	+ 14 34 23.69
July	2			+ 16 54 51.40					

MARS.

February	9	10 46 58.4	8 4 33.28	+ 24 50 10.77	March	10	8 34 19.4	7 49 49.04	+ 24 34 7.54
March	3	9 0 54.5	7 49 52.67	+ 24 49 51.62	May	3	6 6 47.4	8 54 46.71	+ 19 26 41.86

VESTA.

MEAN TIME — WASHINGTON.		α	δ	MEAN TIME — WASHINGTON.		α	δ
1852.	h. m. s.	h. m. s.	° ′ ″	1852.	h. m. s.	h. m. s.	° ′ ″
September 28	14 43 36.1	3 16 30.57	+ 7 48 13.16				

JUPITER.

May 31	10 14 36.6	14 53 40.13		July 9	7 32 20.7	14 44 43.37	—14 51 53.58
June 5			— 15 13 43.30	15	7 8 53.6	14 44 51.75	—14 53 37.36
10	9 31 30.9	14 49 52.94	— 15 5 11.32	19	6 53 29.7	14 45 11.95 } ?	—14 58 18.20
11	9 28 15.0	14 50 33.06	— 15 4 52.73			11.00 }	
15	9 10 18.8	14 48 20.16	— 15 3 17.55	22	at transit.		—14 58.45.63

SATURN.

September 28	14 28 53.6	3 1 45.63	+ 14 31 30.72				

NEPTUNE.

October 2	9 57 0.7	22 44 54.23	— 8 26 41.45				

RESULTS OF OBSERVATIONS

WITH

THE EQUATORIAL,

IN

1851.

APPARENT PLACES OF FLORA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
January 1	9 8 5.3	Weisse Catalogue, O, 820	6	0 48 28.51	− 1 43 8.79
13	8 43 26.0	Weisse Catalogue, I, 138	7	1 7 13.81	+ 0 59 54 32
16	7 17 58.2	Weisse Catalogue, I, 197	4	1 12 7.05	+ 1 40 26.04

MEAN PLACES OF STARS COMPARED WITH FLORA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse O, 820	7	January 1	0 48 6.50	− 1 36 27.48	0 48 37.11	− 1 33 11.37
Weisse I, 138	8	13	1 9 27.35	+ 1 13 21.18		+ 1 16 32.54
Weisse I, 197	9.5	16	1 12 36.52	+ 1 21 57.43	1 13 7.36	+ 1 25 7.94

APPARENT PLACES OF VICTORIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
January 1	8 2 50.6	B. A. C., 129	6	0 20 39.34	+ 5 59 14.95
12	7 30 25.0	Weisse Catalogue, O, 635	13	0 36 21.67	6 57 37.23
12	7 15 6.6	Weisse Catalogue, O, 638	5	0 36 20.91	6 57 24.76
13	7 20 7.5	Weisse Catalogue, O, 657	17	0 37 49.87	7 3 26.38
24	8 35 25.0	Weisse Catalogue, O, 965	7	0 54 37.11	8 12 20.41
25	8 12 23.1	Weisse Catalogue, O, 965	6	0 56 8.91	8 18 47.28
31	6 53 43.2	Weisse Catalogue, I, 100	10	1 5 31.23	8 58 53.38
31	6 53 43.2	Weisse Catalogue, I, 113	10	1 5 30.99	8 58 55.44
February 6	6 59 36.6	Weisse Catalogue, I, 299	6	1 15 10 27	9 40 47.55
11	6 55 6.0	Weisse Catalogue, I, 382	13	1 23 18.73	10 16 21.36
12	6 52 21.5	Weisse Catalogue, I, 382	6	1 24 57.12	10 23 28.38
16	6 57 28.9	Weisse Catalogue, I, 569	11	1 31 35.23	10 52 25.68
17	6 53 50.4	Weisse Catalogue, I, 569	8	1 33 14.88	10 59 38.93
18	7 42 1.7	Weisse Catalogue, I, 569	4	1 34 58.35	11 7 3.07
22	7 9 2.4	Weisse Catalogue, I, 740	16	1 41 38.16	11 35 56.73
25	7 22 0.0	Weisse Catalogue, I, 855	10	1 46 36.11	11 57 47.14
March 1	7 34 33.8	Weisse Catalogue, I, 943	10	1 53 32.65	12 26 52.50
2	7 6 14.3	Weisse Catalogue, I, 943	4	1 55 13.17	12 33 54.41
2	7 22 34.2	Weisse Catalogue, I, 973	12	1 55 14.64	12 34 1.24
3	7 20 43.0	Weisse Catalogue, I, 973	6	1 56 57.24	12 41 12.37
4	7 32 5.5	Weisse Catalogue, I, 1042	12	1 58 41.13	12 48 29.75
10	7 11 48.4	Weisse Catalogue, II, 143	12	2 9 2.33	13 31 10.51
11	7 17 27.9	Weisse Catalogue, II, 143	8	2 10 46.85	13 38 14.48
13	7 12 44.8	Weisse Catalogue, II, 182	6	2 14 14.82	13 52 14.46
21	7 53 11 0	Weisse Catalogue, II, 479	4	2 28 16.99	14 47 31.76
25	7 21 46.5	Weisse Catalogue, II, 569	4	2 35 22.16	15 14 12.46
November 28	7 5 58.8	Rumker, 2502	4	8 13 48.08	+ 10 54 22.09

MEAN PLACES OF STARS COMPARED WITH VICTORIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0. α	1850. 0. δ	1860. 0. α	1860. 0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
B. A. C., 129	6.5	January 1	0 24 39.57	+ 6 7 34.33	0 25 10.45	
Weisse O, 635	8.5	12	0 36 34.26	6 57 3.62	0 37 5.24	
Weisse O, 638	9	12	0 36 40.71	7 0 6.37	0 37 11.70	+ 7 3 24.37
Weisse O, 657	8	13	0 37 54.62	7 1 24.13	0 38 25.62	
Weisse O, 965	7	24, 25	0 54 53.21	8 19 33.36	0 55 24.40	
Weisse I, 100	8	31	1 7 0.19	8 56 46.68	1 7 31.52	9 0 0.25
Weisse I, 113	7	31	1 7 56.19	8 59 20.56	1 8 27.43	9 2 33.14
Weisse I, 299	8	February 6	1 18 4.40	9 37 29.27	1 18 35.88	
Weisse I, 382	9	6, 12	1 22 23.86	10 18 50.66	1 22 55.36	
Weisse I, 569	9	16, 17, 18,	1 32 22.50	11 7 4.88	1 32 54.25	
Weisse I, 740	9	22	1 41 10.56	11 38 30.11	1 41 42.47	11 41 31.45
Weisse I, 855	9	25	1 47 37.51	11 50 8.43	1 48 9.50	11 53 6.77
Weisse I, 943	8.5	March 2	1 52 45.45	12 39 20.67	1 53 17.60	12 42 17.47
Weisse I, 973	7	2, 3	1 54 31.00	12 45 3.80	1 55 3.18	
Weisse I, 1042	7.5	3, 4	1 58 24.64	12 44 38.29	1 58 56.88	12 47 32.15
Weisse II, 143	8	10, 11	2 9 54.98	13 46 15.12	2 10 27.47	13 49 5.19
Weisse II, 182	8.5	13	2 12 4.41	13 46 17.12	2 12 36.90	13 39 11.04
Weisse II, 479	9	21	2 28 30.66	14 31 26.41	2 29 3.48	14 34 6.21
Weisse II, 569	9	25	2 33 2.63	15 23 40.05	2 33 35.62	
B. A. C., 2806	6	November 28	8 15 42.73	+ 11 6 42.36	8 16 15.61	+ 11 4 50.20

APPARENT PLACES OF EGERIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
January 1	6 44 33.2	Weisse Catalogue, I, 646	15	1 35 47.44	+ 12 14 30.69
7	6 34 7.7	Weisse Catalogue, I, 732	12	1 38 37.27	12 58 38.33
11	6 24 31.0	Weisse Catalogue, I, 732	7	1 40 59.21	13 29 28.18
12	6 10 50.8	Weisse Catalogue, I, 732	13	1 41 37.71	13 37 16.57
13	6 24 13.8	* 1, W.	15	1 42 17.95	13 45 20.52
14	6 31 33.3	* 1, W.	8	1 42 59.83	13 53 22.70
14	6 51 41.0	Weisse Catalogue, I, 775	5	1 43 0.31	13 53 33.09
16	6 14 46.2	Weisse Catalogue, I, 775	8	1 44 26.40	14 9 42.53
16	6 15 25.8	Weisse Catalogue, I, 807	6	1 44 26.23	14 9 44.94
24	7 38 34.4	Weisse Catalogue, I, 896	12	1 51 6.41	15 16 55.84
25	7 23 53.0	Weisse Catalogue, I, 896	12	1 52 0.86	15 25 26.32
31	8 3 22.0	B. Z., 394, 164	7	1 57 54.42	16 18 4.62
February 6	9 43 46.2	Rumker, 568	9	2 4 29.68	17 12 25.80
7	8 40 14.1	Rumker, 568	8	2 5 34.47	17 20 58.44
11	8 12 28.4	Lalande, 4238	6	2 10 15.33	17 57 19.69
12	8 14 4.2	Lalande, 4238	10	2 11 28.45	18 6 28.28
16	8 16 51.6	B. Z., 332, 45	9	2 16 30.34	18 43 20.74
17	9 17 6.7	B. Z., 332, 45	10	2 17 50.56	18 52 20.92
22	8 17 9.9	Rumker, 654	16	2 24 26.34	19 38 48.22
26	7 41 31.8	Rumker, 654	13	2 29 57.04	20 15 31.11
March 1	8 30 19.4	B. Z., 391, 41	11	2 34 19.42	20 43 41.09
2	8 23 19.1	Rumker, 695	12	2 35 45.57	20 52 58.18
3	8 39 38.9	Rumker, 695	12	2 37 14.67	21 2 18.94
10	8 2 0.1	Rumker, 742	7	2 47 49.84	22 6 25.57
11	8 33 58.2	Rumker, 742	7	2 49 25.96	22 15 49.03
13	8 1 41.7	B. Z., 27, 58	10	2 52 33.66	22 33 45.92
21	8 49 5.7	B. Z., 530, 91	3	3 5 41.69	23 45 51.70
25	8 5 21.9	Rumker, 845	11	3 12 24.84	24 20 45.79
26	7 34 1.9	Rumker, 845	10	3 14 5.58	24 29 17.04
26	7 34 1.9	Rumker, 849	10	3 14 5.82	24 29 14.72
28	7 34 39.5	B. Z., 530, 104	14	3 17 44.43	24 46 27.97
April 6	7 49 5.6	B. Z., 396, 35	15	3 33 41.58	26 2 3.53
9	8 9 51.9	B. Z., 396, 45	10	3 39 14.83	26 26 24.16
11	7 45 44.9	B. Z., 396, 48	10	3 42 58.65	26 42 8.37
11	8 12 11.6	B. Z., 396, 48	4	3 43 0.49	26 42 15.54
18	7 56 58.0	B. Z., 397, 35	12	3 56 19.88	27 35 51.71
22	8 3 17.0	Rumker, 1104	16	4 4 6.59	28 5 11.88
29	8 12 54.1	B. Z., 397, 54	7	4 18 5.70	28 53 25.61
November 26	13 55 22.9	B. Z., 502, 106	3	11 34 2.44	20 57 14.24
28	15 33 16.3	B. Z., 496, 73	6	11 36 57.43	20 49 11.65
28	15 33 16.3	B. Z., 496, 75	6	11 36 57.44	20 49 9.66
28	15 33 16.3	B. Z., 3990	6	11 36 57.43	20 49 9.85
December 1	13 12 18.5	B. Z., 496, 73	7	11 40 59.83	20 38 24.65
1	13 12 18.5	B. Z., 496, 75	7	11 40 59.41	+ 20 38 26.07

MEAN PLACES OF STARS COMPARED WITH EGERIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse I, 646	8.5	January 1	1 35 14.62	+ 12 11 53.53	1 35 46.50	
Weisse, 732	9	7, 11, 12	1 40 34.98	13 18 52.86	1 41 7.04	+ 13 21 54.19
* 1, W	9	13, 14	1 42 2.23	13 36 06.04		
Weisse I, 775	9	14, 16	1 43 11.85	14 0 35.98	1 43 44.07	14 3 36.46
Weisse, 807	9	16	1 44 59.22	14 8 14.26	1 45 31.44	14 11 14.06
Weisse, 896	8.5	24, 25	1 50 31.36	15 11 49.51	1 51 3.77	
Bessel's Zones, 394, 164	8.5	31	1 58 23.70	16 21 57.89	1 58 56.37	
Rumker, 568	9	February 6, 7	2 7 9.41	17 12 59.84	2 7 42.32	17 15 50.28
Lalande, 4238	7.5	11, 12	2 9 27.28	17 45 24.70		
Bessel's Zones, 332, 45	8.5	16, 17	2 17 17.76	18 52 26.18	2 17 51.07	
Bessel's Zones, 391, 41	8	March 1	2 35 11.49	20 30 24.40		
Rumker, 654	8.5	February 22, 26	2 25 3.73	19 46 29.65		
Rumker, 695	6.5	March 2, 3	2 36 16.67	20 58 37.21	2 36 50.63	21 1 12.77
Rumker, 742	9	10, 11	2 46 52.52	22 19 16.39	2 47 26.90	22 21 47.76
Bessel's Zones, 27, 58	7	13	2 54 47.33	22 28 8.27	2 55 21.88	22 30 33.10
Bessel's Zones, 530, 91	9	21	3 7 19.94	23 48 23.44	3 7 54.98	23 50 40.46
Rumker, 845	9	25, 26	3 13 20.10	24 12 32.78	3 13 55.32	24 14 45.91
Rumker, 849	6	26	3 15 27.43	24 11 19.92	3 16 2.69	24 13 32.96
Bessel's Zones, 530, 104	9	28	3 16 18.45	24 54 13.32	3 16 53.77	
Bessel's Zones, 396, 35	8.5	April 6	3 33 27.13	26 5 21.15	3 34 3.12	26 7 20.55
Bessel's Zones, 45	9	9	3 39 15.90	26 7 18.21	3 39 51 99	26 9 13.61
Bessel's Zones, 48	9	11	3 41 43.00	26 37 2.87		26 38 56.48
Bessel's Zones, 397, 35	9	18	3 56 18.11	27 28 1.50	3 56 54.80	27 29 44.34
Rumker, 1104	9	22	4 3 4.95	28 2 32.65	4 3 41.91	28 4 10.26
Bessel's Zones, 397, 54	9	29	4 16 14.82	29 10 39.29	4 16 52.27	+ 29 12 6.55
Bessel's Zones, 502, 106	8		11 30 38.75	20 55 50.23		
Bessel's Zones, 496, 75	7.5		11 37 34.02	20 43 24.24		
Bessel's Zones, 496, 73	7		11 39 42.20	+ 20 51 52.36		

APPARENT PLACES OF VENUS.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
January 13	18 59 59.1	B. A. C., 5839	4	F. 17 10 41.43	
13	18 38 14.4	B. A. C., 5839	12		S. — 17 29 21.28
13	18 39 38.1	B. A. C., 5839	12		N. 17 28 32.65
15	18 20 53.7	Lalande, 51543	12	F. 17 13 32.34	
15	18 12 39.4	Lalande, 51543	16		S. 17 31 48.25
15	18 13 50.6	Lalande, 51543	16		N. 17 30 59.48
24	18 13 16.0	Taylor, 8219	4	F. 17 39 3.20	
24	18 4 5.7	Taylor, 8219	4		S. 18 3 11.39
24	18 5 22.6	Taylor, 8219	4		N. — 18 2 30.21

MEAN PLACES OF STARS COMPARED WITH VENUS.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″		
B. A. C., 5839	6.5	January 13	17 11 9.75	— 17 35 38.52		
Lalande, 31543	8	15	17 13 51.83	17 33 4.87		
Taylor, 8219	7	24	17 38 40.85	— 18 2 41.59		

APPARENT PLACES OF METIS.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
January 13	15 43 41.8	B. Z., 275, 106	11	9 58 49.82	+ 21 16 50.37
15	16 57 33.5	* 4. W.,	8	9 57 36.43	21 30 51.36
February 22	10 13 32.1	B. Z., 345, 44	8	9 22 24.47	25 13 24.32
March 1	9 47 4.4	B. A. C., 3194	10	9 16 37.22	25 28 32.48
2	9 8 50.5	B. A. C., 3194	10	9 15 54.58	25 29 45.53
21	10 28 37.9	B. Z., 347, 40	12	9 7 58.95	25 15 32.50
24	9 23 51.1	B. Z., 347, 40	4	9 7 48.98	25 7 31.84
April 3	9 30 6.4	B. Z., 345, 34	4	9 9 18.04	24 31 10.91
6	9 15 52.1	B. Z., 345. 34	14	9 10 19.83	24 17 45.91
11	10 14 28.0	B. Z., 345, 34	3	9 12 36.97	23 53 0.00
18	10 26 45.4	B. Z., 345, 39	9	9 16 51.53	23 14 8.49
18	10 26 45.4	B. Z., 345, 40	9	9 16 52.50	23 14 9.04
21	8 55 44.6	B. Z., 345, 39	10	9 18 57.83	22 56 31.93
21	8 55 44.6	B. Z., 345, 40	10	9 18 58.97	22 56 32.20
29	9 48 49.3	B. Z., 278, 159	8	9 25 37.78	22 4 27.33
May 1	9 56 26.4	B. Z., 278, 169	4	9 27 29.02	21 50 40.84
1	9 56 26.4	B. Z., 278, 170	4	9 27 29.34	21 50 40.20
2	9 40 5.5	B. Z., 278, 169	6	9 28 25.60	21 44 0.59
2	9 40 5.5	B. Z., 278, 170	6	9 28 25.57	21 44 2.94
6	10 12 5.7	B. Z., 278, 172	10	9 32 23.97	21 14 49.31
7	8 20 00.0	B. Z., 278, 172	4	9 33 20.81	21 8 3.44
11	8 24 30.3	B. A. C., 3318	7	9 37 26.32	20 37 54.65
21	8 48 51.3	Rumker, 3002	11	9 48 56.89	19 17 44.35
24	8 25 32.3	B. Z., 275, 87	7	9 52 45.93	18 52 28.23
26	8 28 57.2	B. Z., 274, 167	9	9 55 15.73	18 35 29.58
June 4	8 37 45.5	B. Z., 410, 5	6	10 5 37.23	+ 17 16 47.31

MEAN PLACES OF STARS COMPARED WITH METIS.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0. α	1850. 0. δ	1860. 0. α	1860. 0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Bessel's Zones, 275, 106	6	January 13	10 1 2.57	+ 21 3 56.56	10 1 2 57	+ 21 1 1.95
* 4. W.	9.5	15	9 57 42.89	21 17 56.00	9 58 16.25	
Bessel's Zones, 345, 44	9	February 22	9 22 52.00	25 4 17.64	9 23 26.66	25 1 42.17
B. A. C., 3194	6.5	March 1, 2	9 14 50.36	25 49 16.23	9 15 25.33	25 46 45.33
Bessel's Zones, 347, 40	8.5	21, 24	9 8 2.23	25 15 36.28	9 8 37.23	25 13 9.38
Bessel's Zones, 345, 34	8.5	April 3, 6, 11	9 8 39.75	24 16 42.48	9 9 14.55	24 14 15.20
Bessel's Zones, 345, 39	9	18, 21	9 17 32.97	23 17 21.41	9 18 7.42	23 14 48.95
Bessel's Zones, 345, 40	9	18, 21	9 17 45.83	23 17 20.38	9 18 19.28	23 14 47.82
Bessel's Zones, 278, 159	9	29	9 22 29.73	21 56 48.97	9 23 3.85	21 54 13.73
Bessel's Zones, 278, 169	9	May 1, 2	9 30 11.41	21 49 33.91	9 30 45.37	21 46 54.52
Bessel's Zones, 278, 170	9	1, 2	9 30 45.58	21 52 20.07	9 31 19.54	21 49 40.35
Bessel's Zones, 278, 172	9.9	6, 7	9 30 43.84	21 8 9.68	9 31 17.68	21 5 29.96
B. A. C., 3318	9.7	11	9 34 58.06	20 52 34.48	9 35 31.78	20 49 52.61
Rumker, 3002	8	21	9 47 16.00	19 31 50.13		19 29 2.46
Bessel's Zones, 275, 87	9	24	9 51 8.07	18 49 22.11	9 51 41.20	18 46 32.25
Bessel's Zones, 274, 167	9	26	9 56 54.57	18 17 40.69	9 57 27.54	+ 18 14 48.19
Bessel's Zones, 410, 5	9	June 4	10 4 50.70	+ 17 15 34.10		

APPARENT PLACES OF ASTREA.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1851.		h. m. s.			h. m. s.	° ′ ″
April	21	10 9 8.6	Weisse Catalogue, XIV, 759	5	14 41 34.06	— 6 30 52.06
	21	10 9 8.6	Weisse Catalogue, XIV, 787	5	14 40 11.59	6 30 52.43
	22	10 26 7.8	Weisse Catalogue, XIV, 787	18	14 40 41.30	6 29 2.10
	29	10 40 56.4	Weisse Catalogue, XIV, 668	6	14 34 26.37	5 40 16.73
May	1	10 32 39.9	Weisse Catalogue, XIV, 606	3	14 32 38.73	5 41 4.00
	2	10 43 9.2	Weisse Catologue, XIV, 606	8	14 31 45.21	5 36 35.62
	6	11 5 35.4	Weisse Catalogue, XIV, 503	6	14 28 14.37	5 1 5.23
	7	10 21 2.8	Weisse Catalogue, XIV, 503	13	14 27 24.96	5 16 31.14
	12	9 58 6.0	Weisse Catalogue, XIV, 423	6	14 23 20.27	5 0 5.14
	21	10 28 15.7	Weisse Catalogue, XIV, 257	6	14 16 19.08	4 38 24.59
June	18	9 43 31.5	Weisse Catalogue, XIV, 174	5	14 9 16.55	4 35 7.35
	19	10 2 42.3	Weisse Catalogue, XIV, 174	4	14 11 11.68	4 22 6.82
	20	9 1 8.9	Weisse Catalogue, XIV, 174	5	14 11 17.67	4 25 33.36
	21	9 2 47.8	Weisse Catalogue, XIV, 174	6	14 11 26.07	4 29 3.87
	24	8 38 14.3	Weisse Catalogue, XIV, 174	5	14 11 57.61	— 4 40 14.25

MEAN PLACES OF STARS COMPARED WITH ASTREA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0. α	1850. 0. δ	1860. 0. α	1860. 0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XIV, 759	8	April 21	14 40 44.43	— 6 28 40.98	14 41 16.14	— 6 31 14.04
Weisse XIV, 787	9	21, 22	14 40 44.46	6 32 16.40	14 41 16.18	6 34 49.45
Weisse XIV, 668	8	29	14 36 29.18	5 45 0.51	14 37 0.76	5 47 35.98
Weisse XIV, 606	9	May 1, 2	14 33 4.90	5 48 41.80	14 33 36.47	5 51 19.16
Weisse XIV, 503	8	6, 7	14 27 34.34	5 10 23.37	14 28 5.79	5 13 3.65
Weisse XIV, 423	8	12	14 23 10.11	5 7 58.29	11 23 41.53	5 10 40.90
Weisse XIV, 257	9	21	14 14 15.35	4 37 19.47	14 14 46.68	4 40 6.49
Weisse XIV, 174	9	June 18, 19, 20, 21, 24	14 10 7.24	— 4 26 48.31	14 10 38.52	— 4 29 37.31

APPARENT PLACES OF IRENE.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1851.		h. m. s.			h. m. s.	° ′ ″
June	9	11 21 9.1	Weisse Catalogue, XV, 864	19	15 44 21.28	— 14 9 42.93
	9	11 47 26.1	Weisse Catalogue, XV, 845	12	15 44 20.58	14 9 45.25
	10	10 29 1.4	Weisse Catalogue, XV, 845	5	15 43 36.63	14 12 37.00
	10	10 56 50.1	Weisse Catalogue, XV, 845	10	15 43 35.96	14 12 40.99
	13	10 10 24.2	Weisse Catalogue, XV, 792	13	15 41 26.52	14 22 4.71
	13	10 58 14.1	Weisse Catalogue, XV, 792	10	15 41 25.14	14 22 10.75
	14	11 31 27.6	Weisse Catalogue, XV, 792	16	15 40 43.97	14 25 34.76
	15	11 29 20.9	Weisse Catalogue, XV, 792	14	15 40 4.21	14 28 58.61
	17	10 8 17.6	Weisse Catalogue, XV, 744	12	15 38 52.13	14 35 45.50
	17	10 37 29.0	Weisse Catalogue, XV, 744	10	15 38 51.56	14 35 50.17
	18	10 23 27.9	Weisse Catalogue, XV, 744	6	15 38 15.10	14 39 22.55
	18	10 48 14.8	Weisse Catalogue, XV, 744	10	15 38 16.70	14 39 26.54
	19	10 25 11.0	Weisse Catalogue, XV, 744	6	15 37 44.21	14 43 4.68
	24	10 15 19.7	Weisse Catalogue, XV, 637	2	15 35 23.91	15 2 34.16
	24	10 15 19.7	Weisse Catalogue, XV, 644	2	15 35 24.19	15 2 31.66
	25	9 28 7.7	Weisse Catalogue, XV, 637	2	15 35 1.90	15 6 31.68
July	2	9 44 48.8	B. A. C., 5184	13	15 33 10.44	15 37 9.33
	4	10 16 9.2	B. A. C., 5184	14	15 32 54.49	— 15 46 32.61

APPARENT PLACES OF IRENE — Continued.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
July 5	10 6 7.6	* 5 W.	10	15 32 49.57	— 15 51 10.51
13	10 47 51.9	Lalande, 28617	12	15 33 9.82	16 52 15.58
17	9 50 45.1	* 6 W.	12	15 34 0.49	16 52 15.58
20	10 40 37.8	Lalande, 28453	7	15 34 55.09	17 8 48.37
21	9 29 26.5	Lalande, 28453	4	15 35 15.24	17 14 2.20
21	9 47 20.6	* 8 W.	9	15 35 15.82	17 13 59 18
22	9 14 34.7	* 8 W.	12	15 34 38.58	17 19 24.99
25	10 25 31.1	Lalande, 28726	10	15 36 58.04	17 36 34.61
28	9 42 10.8	Lalande, 28726	9	15 38 28.20	17 53 24.68
August 1	7 51 51.8	Lalande, 28766	18	15 40 47.55	18 16 18.25
3	8 53 16.6	Lalande, 28766	9	15 42 6.56	18 27 56.73
3	8 53 16.6	Lalande, 28838	9	15 42 6.38	18 27 56.60
6	9 39 14.5	B. A. C., 5264	10	15 44 16.57	18 45 43.87
12	8 18 9.8	Lalande, 29043	8	15 49 3 93	19 20 42.24
12	8 18 9.8	Σ. C. G., 1760	8	15 49 4.00	19 20 42.14
13	8 18 43.9	Lalande, 29043	10	15 49 56.48	19 26 32.89
13	8 18 43.9	Σ. C. G., 1760	10	15 49 56.56	19 26 32.00
14	8 34 45.0	Σ. C. G., 1760	14	15 50 50.58	19 32 30.84
15	8 49 30.4	Lalande, 29043	6	15 51 46.19	19 38 28.15
15	8 49 30.4	Σ. C. G., 1760	6	15 51 46.15	19 38 28.46
16	8 30 37.6	Σ. C. G., 1760	6	15 52 41.18	19 44 15.98
16	8 25 18.8	G. 12 Y., 1315	6	15 52 41.26	19 44 15.56
26	7 58 10.0	B. A. C., 5395	5	16 2 57.10	20 42 30.64
27	7 58 56.1	B. A. C., 5395	6	16 4 3.93	20 48 11.62
28	7 59 7.6	B. A. C., 5395	3	16 5 11.86	20 53 51.47
29	8 20 17.2	B. A. C., 5395	6	16 6 22.56	20 59 39.33
31	8 23 17.4	* 10 W.	8	16 8 43.78	21 11 5 32
September 3	8 3 42.2	* 11 W.	14	16 12 21 19	21 27 45.47
4	7 39 27.8	* 11 W.	5	16 13 34.02	21 33 15.30
20	7 13 59.9	B. A. C., 5598	10	16 35 8.03	22 56 41.71
20	7 15 40.2	B. A. C., 5606	9	16 35 8.05	22 56 42.03
21	7 12 41.7	B. A. C., 5598	10	16 36 34.82	23 1 32.26
21	7 12 41.7	B. A. C., 5606	10	16 36 34.86	23 1 30.68
24	7 20 5.6	B. A. C., 5680	3	16 41 0.50	23 15 50.52
25	7 13 26.3	B. A. C., 5680	5	16 42 29.27	23 20 26.48
26	7 12 22.7	B. A. C., 5680	10	16 43 59.40	23 24 57.92
October 7	6 41 59.7	* 12 W.	5	17 1 7.53	24 11 29.38
8	7 10 30.3	* 12 W.	2	17 1 46.10	24 15 20.30
10	6 47 57.2	B. A. C., 5829	3	17 5 58.92	24 22 44.95
10	6 47 57.2	B. A. C., 5827	3	17 5 59.26	24 23 6.80
11	6 39 22.6	B. A. C., 5827	6	17 7 36.65	24 26 30.21
13	6 41 48.4	B. A. C., 5846	6	17 10 54.52	24 33 37.11
13	6 41 48.4	B. A. C., 5851	6	17 10 54.43	24 33 39.77
15	6 33 55.4	B. A. C , 5846	6	17 14 13 51	24 40 26.31
15	6 33 55.4	B. A. C., 5851	6	17 14 32.05	24 40 26.19
24	6 21 51.8	* 13 W.	3	17 29 23.96	25 07 34.78
27	6 27 50.8	Lalande, 32418	4	17 34 44.47	25 15 13.99
31	6 15 36.7	Lalande, 32559	4	17 41 45.91	— 25 24 24.50

MEAN PLACES OF STARS COMPARED WITH IRENE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XV, 864	8	June 9, 10	15 44 53.00	— 14 15 42.55	15 45 26.55	— 14 17 33.86
Weisse XV, 845	9	9, 10	15 43 34.13	14 10 49.16	15 44 7.66	14 12 41.44
Weisse XV, 792	9	13, 14, 15	15 41 22.82	14 21 43.10		14 23 36.88
Weisse XV, 744	8	17, 18, 19	15 38 41.05	14 45 55.81	15 39 14.66	14 47 51.60
Weisse XV, 637	9	24, 25	15 33 14.82	15 4 20.86	15 33 48 44	15 6 20.50
Weisse XV, 644	9	24	15 33 36.33	15 4 52 12	15 34 9.95	15 6 51.55
B. A. C., 5184	7	July 2, 4	15 34 20.38	15 31 42.42	15 34 54.10	15 33 41.23
* 5 W.	9.5	5	15 32 29.47	15 46 18.62		
Lalande, 28617	7	13	15 35 27.11	— 16 23 23.38	15 36 1.02	— 16 25 21.50

MEAN PLACES OF STARS COMPARED WITH IRENE — Continued.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
* 6 W.	7.5	July 17	15 33 39.05	— 16 53 21.00		
Lalande, 28453	7	20, 21	15 30 10.10	17 10 4 98	15 30 44.11	— 17 12 6.78
* 8 W.	9.2	21, 22	15 34 32.46	17 12 46.39	15 35 6.52	
Lalande, 28726	8	22, 28	15 38 46.30	17 37 12.57	15 39 20.50	17 39 8.26
Lalande, 28766	8	August 1, 3	15 40 30.00	18 13 20.98	15 41 4.25	18 15 15.46
Lalande, 28838	7.5	3	15 43 0.37	18 28 49.92	15 43 34.80	18 30 42.60
B. A. C., 5264	7	6	15 46 20.53	18 56 8.60	15 46 55.09	18 57 58.85
Lalande, 29043	8	12, 13, 15	15 50 24.74	19 29 59.35	15 50 59.47	19 31 46.60
Σ. C. G., 1760	8	12, 14, 16	15 50 25.59	19 30 12.63	15 51 0.32	19 31 59.88
Gr. 12 Y., 1315	7	16	15 54 24.50	19 25 8.34		18 26 52.66
B. A. C., 5342	4.5	24	15 58 36.95	20 27 28.90		
B. A. C., 5395	7	26, 27, 28, 29	16 4 51.90	21 0 43.64		21 2 20.05
* 10 W.	8.5	31	16 9 48.20	21 13 12.92		21 14 45.48
* 11 W.	8.5	September 3, 4	16 11 51.10	21 28 30.26		21 30 1.26
Lalande, 30207	8		16 29 20.80	22 35 2.82		22 36 19.85
B. A. C., 5598	7	20, 21	16 34 49.14	22 50 27.91		22 51 40.54
B. A. C., 5606	7	20, 21	16 36 7.89	22 53 57.51		22 55 9.08
B. A. C., 5680	6.5	24, 25, 26	16 45 47.28	23 15 39.74		23 16 43.37
* 12 W.	9	October 7, 8	17 0 7.19	24 9 34.45		24 10 26.11
B. A. C., 5827	4.5	10, 11	17 8 51.98	24 7 4.37	17 9 28.54	24 7 48.51
B. A. C., 5829	7	10	17 8 51.92	24 6 55.36	17 9 28.48	24 7 39.50
B. A. C., 5851	3.5	13, 15	17 12 48.00	24 50 39.99	17 13 24.79	24 51 20.76
B. A. C., 5846	7	13, 15	17 12 29.86	24 44 56.87		24 45 37.94
* 13, W.	9	24	17 28 40.84	24 52 11.08		
Lalande, 32559	8.5	31	17 42 37.51	25 43 34.10		25 43 49.00
Lalande, 32418	8.5	27	17 38 28.82	— 25 7 38.82	17 39 5.79	— 25 7 57.44

APPARENT PLACES OF VESTA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
June 18	11 39 57.6	B. A. C., 5771	6	17 0 18.27	— 17 39 1.92
July 13	11 8 22.1	Lalande, 30641	10	16 43 14.34	19 17 41.27
17	10 41 45.1	Lalande, 30600	16	16 42 14.62	19 35 24.10
20	11 29 45.3	Lalande, 30600	10	16 41 51.99	19 49 18.68
August 12	8 59 51.0	Lalande, 30788	5	16 48 49.37	21 38 32.86
13	9 13 53.5	Lalande, 30788	16	16 49 30.17	21 43 25.74
14	9 43 46.3	Lalande, 30788	11	16 50 13.44	21 48 16.52
15	10 39 1.4	Lalande, 30788	3	16 50 58.93	— 21 53 13.06

MEAN PLACES OF STARS COMPARED WITH VESTA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″		° ′ ″
B. A. C., 5771	6.5	June 18	16 59 32.46	— 17 24 18.49		— 17 25 10.61
Lalande, 30641	8.5	July 13	16 43 34.48	19 5 48.49		19 6 53.94
Lalande, 30600	9	17, 20	16 42 5.99	19 34 26.38		19 35 33.06
Lalande, 30788	8.5	August 12, 13, 14, 15	16 48 45.09	— 21 32 1.60		— 21 33 2.76

APPARENT PLACES OF HEBE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
July 20	12 19 0.6	Weisse Catalogue, XIX, 315	10	19 10 30.25	— 10 27 56.28
August 6	11 22 13.0	Weisse Catalogue, XVIII, 1547	5	18 56 30.81	13 21 16.92
12	10 43 22.6	Weisse Catalogue, XVIII, 1344	6	18 53 10.39	14 23 39.53
13	10 14 21.4	Weisse Catalogue, XVIII, 1344	12	18 52 43.52	14 33 47.01
16	9 59 49.9	Weisse Catalogue, XVIII, 1276	12	18 51 33.16	15 4 31.24
26	12 1 10.8	Lalande, 35468	3	18 53 15.08	16 57 31.78
26	11 48 54.8	* 14 W.	6	18 47 17.29	16 32 25.92
28	9 47 22.5	Lalande, 35468	4	18 49 48.90	— 17 1 24.65

MEAN PLACES OF STARS COMPARED WITH HEBE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XIX, 315		July 20	19 13 6.85	— 10 26 6.81	19 13 39.85	— 10 25 3.68
Weisse XVIII, 1547		August 6	19 0 0.44	13 11 10.95	19 0 34.18	13 10 18.85
Weisse XVIII, 1344		12, 13	18 52 56.12	14 43 29.45	18 53 30.26	
Weisse XVIII, 1276		16	18 50 4.34	14 57 50.84		
Lalande, 35468		26, 28	18 53 25.62	17 3 49.02	18 54 0.33	— 17 3 2.47
* 14 W.		26	18 50 57.00	— 16 52 38.00		

APPARENT PLACES OF COMET 1851. I.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
August 6	14 3 15.7	Weisse Catalogue, III, 62	13	3 5 19.29	+ 8 0 8.98
13	13 59 16.0	Weisse Catalogue, III, 428	6	3 24 26.49	6 57 5.99
28	13 47 51.1	Weisse Catalogue, III, 1130	4	3 56 39.08	+ 3 58 22.47

MEAN PLACES OF STARS COMPARED WITH COMET 1851, I.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse III, 62		August 6	3 4 32.84	+ 8 1 32.56		
Weisse III, 428		13	3 24 2.89	7 3 12.10	3 24 34.89	+ 7 5 18.10
Weisse III, 1130		28	3 57 58.53	+ 4 3 40.95		

APPARENT PLACES OF IRIS.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
August 12	11 45 15.0	Weisse Catalogue, O, 233	3	0 13 10.77	+ 11 33 29.69
13	11 14 20.4	Weisse Catalogue, O, 233	14	0 13 16.42	11 38 38.03
16	11 25 4.3	Weisse Catalogue, O, 229	10	0 13 21.33	11 53 9.77
16	11 25 4.3	Weisse Catalogue, O, 233	10	0 13 24.70	11 53 11.84
27	12 6 41.8	Weisse Catalogue, O, 202	9	0 11 31.35	12 28 11.01
28	9 25 49.7	Weisse Catalogue, O, 202	8	0 11 11.64	12 29 41.08
September 15	11 33 7.9	Weisse Catalogue, XXIII, 1269	4	0 0 28.07	12 9 57.76
15	11 31 53.4	Weisse Catalogue, O, 4	4	0 0 28.19	12 10 1.34
16	10 13 23.2	Weisse Catalogue, XXIII, 1269	8	23 59 43.33	12 6 22.56
16	10 13 23.2	Weisse Catalogue, O, 4	8	23 59 43.47	12 6 25.03
October 1	10 20 1.0	Weisse Catalogue, XXIII, 1030	6	23 47 26.72	10 41 7.37
6	9 20 56.8	B. A. C., 8300	11	23 43 44.53	10 4 48.82
7	9 6 56.1	B. A. C., 8300	6	23 43 3.61	
13	10 26 17.5	Weisse Catalogue, XXIII, 828	6	23 39 22.09	9 10 59.82
13	10 26 17.5	Weisse Catalogue, XXIII, 829	6	23 39 23.22	9 10 58.88
23	9 53 12 4	Weisse Catalogue, XXIII, 749	6	23 35 36.19	7 57 57.11
27	9 13 50.2	Weisse Catalogue, XXIII, 705	6	23 35 3.93	7 32 5.68
31	8 58 14.1	Weisse Catalogue, XXIII, 685	6	23 35 6.64	7 8 50.29
November 1	8 31 39.9	Weisse Catalogue, XXIII, 685	4	23 35 13.08	7 10 53.97
7	8 59 38.2	Weisse Catalogue, XXIII, 710	7	23 36 37.51	6 35 48.66
7	9 3 40.1	Weisse Catalogue, XXIII, 764	4	23 37 29.72	6 32 16.15
11	8 19 34.6	Weisse Catalogue, XXIII, 764	6		6 21 52.21
17	8 11 19.8	Weisse Catalogue, XXIII, 831	6	23 41 48.33	6 7 37.91
17	8 11 19.8	Weisse Catalogue, XXIII, 870	6	23 41 48.19	6 7 36.98
17	8 1 58.8	Weisse Catalogue, XXIII, 831	3	23 41 47.99	6 7 39 59
17	8 1 58.8	Weisse Catalogue, XXIII, 870	3	23 41 48.00	6 7 37.52
26	7 12 13.0	B. A. C., 8331	6	23 49 16.67	6 1 53.36
28	7 30 22.6	B. A. C., 8331	10	23 51 14.47	6 3 8 51
29	7 46 54.6	B. A. C., 8331	8	23 52 17.48	6 4 6.51
December 20	8 5 28.7	B. A. C., 89	6	0 19 39.88	+ 7 9 58.00

MEAN PLACES OF STARS COMPARED WITH IRIS.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0. α	1850. 0. δ	1860. 0. α	1860. 0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse O, 233	9	August 12, 13, 16	0 13 27.85	+ 11 52 51.41		+ 11 56 11.60
Weisse O, 229	7.5	16	0 13 12.58	11 56 20.07	0 13 45.84	11 59 41.22
Weisse O, 202	9	27, 28	0 12 8.60	12 33 36.88	0 12 39.48	12 36 57.18
Weisse XXIII, 1269	8	September 15, 16	0 1 14.24	11 58 14.36	0 1 44.96	12 1 34.95
Weisse O, 4	8	15, 16	0 1 27.12	11 58 36.19	0 1 57.84	12 1 56.75
Weisse XXIII, 1201	8.5	20	23 58 17.95	12 2 21.75		
Weisse XXIII, 1212	8.5	20	23 59 50.28	11 59 44.91		
Weisse XXIII, 1030	7	October 1	23 50 6.03	10 38 22.52	23 50 36.85	10 41 42.96
B. A. C., 8300	6	6, 7	23 44 58.19	10 6 45.81	23 45 28.76	10 10 6.01
Weisse XXIII, 828	9	13	23 40 28.12	9 18 51.90	23 40 58.66	9 22 11.82
Weisse XXIII, 829	9	13	23 40 29.50	9 18 53.54		9 22 13.40
Weisse XXIII, 749	9	23	23 36 28.51	8 6 38.31	23 36 59.04	
Weisse XXIII, 705	9	27	23 34 2.82	7 22 21.66	23 34 33.35	7 25 40.99
Weisse XXIII, 685	8.5	October 31, Nov. 1	23 33 3.93	7 6 32.40	23 33 34.46	7 9 51.64
Weisse XXIII, 710	6.5	November 7	23 34 18.34	6 25 13.38		6 28 32.76
Weisse XXIII, 764	8	7, 11	23 37 9.76	6 21 34.99	23 37 40.31	6 24 54.59
Weisse XXIII, 831	7.5	17	23 40 35.25	6 19 51.89	23 41 5.85	6 23 11.79
Weisse XXIII, 870	9	17	23 42 28.50	6 12 49.23	23 42 59.11	6 16 9 26
B. A. C., 8331	4.5	26, 28, 29	23 51 36.80	6 1 56.53	23 52 7.47	6 5 17.00
B. A. C., 89	6	December 20	0 17 58.14	+ 6 51 40.28	0 18 28.99	+ 6 55 0 24

APPARENT PLACES OF PARTHENOPE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
August 13	12 51 21.6	Weisse Catalogue, II, 158	7	2 12 4.58	+ 7 38 41.64
16	12 41 19.1	Weisse Catalogue, II, 235	13	2 14 0.15	7 39 51.40
October 6	11 41 31.9	Weisse Catalogue, II, 112	3	2 8 38.35	4 47 52.44
8	11 24 10.7	Weisse Catalogue, II, 112	6	2 7 2.39	4 36 11.98
9	10 39 20.7	B. A. C., 687	4	2 6 14.61	4 30 32.83
9	11 18 10.2	B. A. C., 687	4	2 6 13.07	4 30 23.31
10	10 50 41.5	B. A. C., 687	14	2 5 23.66	4 24 38.75
15	10 33 33.2	Weisse Catalogue, II, 35	4	2 1 0.64	3 56 1.60
17	10 30 26.9	Weisse Catalogue, II, 7	6	1 59 11.43	3 44 28.14
23	10 23 44.2	Weisse Catalogue, I, 963	8	1 53 37.82	3 12 24.36
31	10 19 5.5	Weisse Catalogue, I, 847	10	1 46 23.99	2 36 9.96
November 1	9 21 55.3	B. A. C., 574	10	1 45 34.29	2 32 30.19
7	10 40 30.8	B. A. C., 574	5	1 40 40.75	2 12 39.68
11	10 20 49.8	Weisse Catalogue, I, 675	6	1 37 49.42	2 3 23.12
December 14	7 41 10.1	Weisse Catalogue, I, 562	3	1 29 55.18	2 43 46.20
17	7 25 1.7	Weisse Catalogue, I, 562	4	1 30 39.77	2 56 32.17
18	7 17 15.7	Weisse Catalogue, I, 562	3	1 30 57.80	3 1 9.55
18	7 39 31.6	Weisse Catalogue, I, 497	5	1 30 57.66	3 1 12.04
23	8 39 41.3	Weisse Catalogue, I, 540	4	1 32 51.42	3 26 28.03
26	8 32 42.3	Weisse Catalogue, I, 607	3	1 34 16.33	3 43 0.81
26	8 32 42.3	Weisse Catalogue, I, 628	3	1 34 16.41	+ 3 43 1.27

MEAN PLACES OF STARS COMPARED WITH PARTHENOPE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse II, 158	7	August 13	2 10 45.17	+ 7 29 7.80	2 11 16.84	+ 7 31 56.86
Weisse II, 235	8	16	2 14 58.97	7 51 33.85	2 15 30.72	
Weisse II, 112	9	October 6, 8	2 7 56.84	4 57 1.37	2 8 28.18	4 59 51 34
B. A. C., 687	7	9, 10	2 5 39.29	4 18 34.22	2 6 10.54	4 21 26.23
Weisse II, 35	9	15	2 3 44.89	4 3 48.90	2 4 16.11	4 6 40.91
Weisse II, 7	8	17	2 1 51.38	3 31 12.28	2 2 22.52	
Weisse I, 963	9	23	1 53 51.96	3 19 32.03	1 54 23.06	3 22 28.26
Weisse I, 847	8	31	1 47 1.42	2 39 15.11	1 47 32.43	2 42 13.79
B. A. C., 574	4.5	November 1, 7	1 45 47.64	2 26 42.00	1 46 18.62	2 29 41.51
Weisse I, 675	8.5	11	1 36 35.83	1 51 37.54	1 37 6.73	
Weisse I, 562	8.5	December 14, 17, 18	1 31 58.48	2 41 30.93	1 32 29.45	
Weisse I, 497	8.5	18	1 28 40.60	3 1 5.39	1 29 11.59	
Weisse I, 540	9	23	1 31 10.99	3 21 32.71	1 31 42.02	3 24 37.55
Weisse I, 607	9	26	1 33 33.42	3 44 6.52	1 34 4.49	3 47 10.53
Weisse I, 628	9.5	26	1 34 25.31	+ 3 40 17.43		+ 3 43 21.11

APPARENT PLACES OF COMET 1851. II.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
August 26	10 45 10.6	Groombridge, 2168	4	14 50 3.27	+ 43 26 19.93
27	9 15 59.0	B. Z., 473, 106	6	14 52 49.67	43 54 49.51
27	9 15 59.0	B. Z., 473, 108	6	14 52 40.89	43 54 47.21
28	8 59 40.5	B. Z., 473, 110	8	14 55 50.06	44 25 13.33
29	9 4 16.4	A. Z., 111, 119	6	14 58 58.10	44 56 14.96
31	10 48 36.4	A. Z., 118, 11	4	15 4 48.11	+ 46 0 18.77

MEAN PLACES OF STARS COMPARED WITH COMET 1851. II.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0.		1860.0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Groombridge, 2168		August 26	14 50 27.31	+ 43 27 59.52	14 50 49.45	+ 43 25 32.02
Bessel's Zones, 473, 106		27	14 52 36.03	44 0 56.15	14 52 57.91	43 58 29.92
Bessel's Zones, 473, 108		27	14 53 31.20	43 56 15.19	14 53 53.07	43 53 49.50
Bessel's Zones, 473, 110		28	14 56 29.91	44 7 56.97		
A. Z., 111, 119		29	14 57 48.17	45 14 0.23		+ 45 11 37.15
A. Z., 118, 111		31	15 6 12.04	+ 46 2 52.35		

APPARENT PLACES OF HYGEA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
August 29	9 41 26.4	B. A. C., 177	3	0 29 37.94	+ 8 33 12.75
September 19	9 16 6.0	B. A. C., 66	3	0 16 25.67	7 27 37.11
21	10 21 42.6	B. A. C., 66	9	0 14 56.75	7 19 3.75
October 1	11 40 24.5	Weisse Catalogue, O, 192	3	0 7 35.01	6 33 28.05
6	10 18 51.8	Weisse Catalogue, O, 89	6	0 4 5.78	6 10 5.47
6	10 18 51.8	Weisse Catalogue, O, 104	6	0 4 6.07	6 10 6.51
8	10 38 46.5	Rumker, 11970	4	0 2 43.12	6 0 30.73
9	9 43 55.3	Rumker, 11970	6	0 2 4.18	5 55 58.25
10	9 55 44.1	Rumker, 11970	5	0 1 24.15	5 51 14.17
10	9 55 44.1	Weisse Catalogue, 1251	5	0 1 23.89	5 51 15.23
14	9 28 24.7	Rumker, 11941	10	23 58 52.34	5 32 49.21
14	9 28 24.7	Weisse Catalogue, XXIII, 1180	10	23 58 52.53	5 32 51.27
19	9 38 22.1	Rumker, 11913	6	23 55 58.30	5 10 34.18
20	10 20 19.1	Rumker, 11913	6	23 55 25.30	5 6 7.53
27	10 8 5.3	Weisse Catalogue, XXIII, 1032	5	23 52 6.31	4 38 17.24
November 1	10 3 37.9	Weisse Catalogue, XXIII, 1032	10	23 50 15.57	4 20 56.04
7	9 26 25.4	Rumker, 11777	6	23 48 39.65	4 3 37.00
11	9 47 39.9	Rumker, 11777	3	23 47 58.85	3 53 58.00
28	8 21 55.6	Rumker, 11777	5	23 48 31.64	3 35 14.58
December 1	7 22 30.3	Rumker, 11766	6	23 49 10.23	3 35 35.54
18	8 11 56.6	Weisse Catalogue, XXIII, 1110	4	23 55 48.92	3 56 56.75
19	7 18 18.7	Weisse Catalogue, XXIII, 1110	4	23 56 19.44	3 59 5.50
23	7 25 27.8	Weisse Catalogue, XXIII, 1258	3	23 58 36.06	4 9 1.08
26	7 5 33.4	Weisse Catalogue, XXIII, 1258	3	0 0 26.30	4 17 30.42
26	7 5 33.4	Weisse Catalogue, XXIII, 1260	3	0 0 26.12	+ 4 17 29.83

MEAN PLACES OF STARS COMPARED WITH HYGEA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0.		1860.0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
B. A. C., 177	7	August 29	0 33 26.88	+ 8 32 6.52	0 33 57.90	
B. A. C., 66	6.5	September 19, 21	0 12 52.86	7 21 24.66		
Weisse O, 192	9	October 1	0 11 24.67	6 26 55.24	0 11 55.47	+ 6 30 16.37
Weisse O, 89	9	6	0 5 19.82	6 3 40.49		6 7 1.11
Weisse O, 104	9	6	0 6 23.86	6 2 40.92	0 6 54.62	6 6 1.40
Rumker, 11970	8	9	23 59 23.31	6 2 28.38		
Weisse XXIII, 1251	8.5	10	0 0 43.46	5 46 54.60		
Rumker, 11941	9	14	23 57 0.70	5 41 21.53	23 57 31.40	
Weisse XXIII, 1180	9	14	23 57 9.61	5 34 55.33		
Weisse XXIII, 1032	7	October 27, Nov. 1	23 50 7.27	4 34 11.18	23 50 37.89	4 37 32.47
Rumker, 11913	6	19, 20	23 55 4.47	5 11 59.25	23 55 35.17	5 15 21.15
Rumker, 11777	8	November 7, 11, 28	23 49 6.36	3 53 23.81	23 49 37.04	3 56 44.28
Rumker, 11766	9	December 1	23 48 36.87	3 47 33.89	23 49 7.55	3 50 55.06
Weisse XXIII, 1110	8.5	18, 19	23 53 55.00	4 13 11.68	23 54 25.70	
Weisse XXIII, 1258	8.5	23, 26	0 1 6.97	4 15 43.49	0 1 37.70	4 19 4.08
Weisse XXIII, 1260	7.5	26	0 1 7.55	4 18 20.66	0 1 38.28	4 21 41.25
Santini, 10			0 7 56.23	+ 5 0 35.37	0 8 26.99	+ 5 3 55.84

APPARENT PLACES OF EUNOMIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1851.	h. m. s.			h. m. s.	° ′ ″
September 1	9 44 3.6	B. A. C., 6161	4	18 9 13.80	— 23 39 13.26
2	7 39 16.3	* 15 W.	9	18 9 31.20	23 35 46.28
4	8 42 51.5	* 15 W.	7	18 10 15.52	23 28 5.82
4	8 44 49.2	Lalande, 33684	7	18 10 16.46	23 28 3.25
16	8 54 55.6	B. A. C., 6222	7	18 16 50.13	22 45 41.15
18	8 34 16.0	* 16 W.	10	18 18 11.44	22 38 6.36
20	8 6 46.1	* 17 W.	10	18 19 41.26	22 31 14.29
21	8 14 31.9	* 18 W.	10	18 20 29.08	22 27 48.52
21	8 9 33.2	Lalande, 34222	5	18 20 28.68	22 27 46.99
24	8 10 27.2	Lalande, 34222	3	18 22 58.80	22 17 30.70
24	8 10 27.2	Lalande, 34229	3	18 22 58.47	22 17 31.86
25	8 3 30.0	Lalande, 34222	12	18 23 50.95	22 14 5 06
25	8 3 30.0	Lalande, 34229	12	18 23 50.82	22 14 6.12
26	8 1 59.1	Lalande, 34222	7	18 24 44.44	22 10 38.24
26	8 2 42.2	Lalande, 34229	5	18 24 44.63	22 10 40 27
26	8 35 37.1	Lalande, 34222	10	18 24 45.79	22 10 32.91
26	8 35 37.1	Lalande, 34229	10	18 24 45.60	22 10 35 31
October 3	8 35 17.0	* 19 W.	6	18 31 35.82	21 46 21.04
6	7 54 41 4	* 20 W.	5	18 34 45.72	21 35 53.46
7	7 18 39.2	* 20 W.	4	18 35 50.60	21 32 26.—
8	7 32 11.3	* 21 W.	6	18 36 58.02	21 28 47.41
9	7 30 55.2	* 21 W.	6	18 38 6.31	21 25 14.01
10	7 28 33.7	* 21 W.	7	18 39 15.67	21 23 41.47
13	7 41 22.5	B. A. C., 6461	6	18 42 49.35	21 10 35.59
15	7 13 6.3	B. A. C., 6461	5	18 45 14.54	21 3 9.14
17	6 41 53.9	B. A. C., 6454	20	18 47 43.72	20 55 36.26
19	6 34 22.4	B. A. C., 6454	12	18 50 17.43	20 47 51.36
20	6 28 31.1	B. A. C., 6454	5	18 51 34.98	20 43 55.50
23	7 18 14.1	* 22 W.	8	18 55 37.45	20 31 44.—
27	7 9 50.2	B. A. C., 6550	12	19 1 7.39	20 15 1.38
31	6 39 45.7	Lalande, 36087	6	19 6 47.59	19 57 33.76
31	8 5 36.4	Lalande, 36087	17	19 6 49.19	19 57 28.88
November 1	7 48 44.2	Lalande, 36087	4	19 8 18.95	19 52 47.79
6	7 17 10.1	B. A. C., 6616	9	19 15 43.62	19 29 25.27
7	7 34 4.5	* 23 W.	6	19 17 15.68	19 24 33.13
11	6 18 27.2	B. A. C., 6707	6	19 23 20.81	19 4 42.97
15	6 8 27.6	B. A. C., 6710	10	19 29 39.00	18 43 30.98
17	6 19 31.4	B. A. C., 6710	5	19 32 52.00	18 32 30 21
26	7 13 27.3	* 24 W.	3	19 47 45.15	17 39 5.18
28	6 7 52.6	Lalande, 38140	8	19 51 2.64	17 26 45.48
29	6 27 58.8	Lalande, 38140	10	19 52 45.26	17 20 13.62
December 1	5 58 20.2	Lalande, 38140	6	19 56 7.76	17 7 11.47
1	6 35 29.0	Madrass, 1483	10	19 56 11.08	17 7 1.65
14	7 33 16.7	Lalande, 39248	14	20 18 30.93	15 33 38.11
17	6 28 31.2	Weisse Catalogue, XX, 664	6	20 24 10.39	15 10 5.10
18	6 22 13.4	Weisse Catalogue, XX, 664	16	20 25 57.19	15 2 7.25
19	5 17 37.1	Weisse Catalogue, XX, 664	15	20 27 44.27	14 53 59.73
23	6 11 54.2	Weisse Catalogue, XX, 860	12	20 34 56.11	14 20 47.09
26	6 7 25.9	Weisse Catalogue, XX, 1031	16	20 40 21.80	— 13 54 55.16

MEAN PLACES OF STARS COMPARED WITH EUNOMIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
B. A. C., 6161	6	September 1	18 2 34.13	— 23 43 34.88	18 3 10.72	— 23 43 32 44
* 15 W.	9	2, 4	18 8 26.72	23 38 15.05	18 9 4.29	23 38 7.45
Lalande, 33684	8	4	18 10 47.40	23 22 15.38	18 11 23.89	23 22 5.72
B. A. C., 6222	7	16	18 12 57.28	22 59 6.10	18 13 33.66	22 58 54.56
B. A. C., 6266	7		18 19 1.00	23 5 11.11	18 19 37.40	23 4 54.30
* 16 W.	9	18	18 19 21.98	— 22 54 25.11		— 22 54 7.99

MEAN PLACES OF STARS COMPARED WITH EUNOMIA — Continued.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
* 17 W.	9	September 20	18 20 37.49	— 22 46 28.96	18 21 13.80	— 22 46 10.74
* 18 W.	9	21	18 19 8.70	22 30 0.60		22 29 43.00
Lalande, 34222	9	21, 24, 25, 26	18 23 28.18	22 23 41.22	18 24 4.37	22 23 20.44
Lalande, 34229	8	24, 25, 26	18 23 42.58	22 14 17.48	18 24 18.74	22 13 56.50
B. A. C., 6336	6.5		18 28 55.40	21 31 0.70	18 29 31.35	
* 19 W.	9	October 3	18 28 30.99	21 49 11.87		21 48 46.73
* 20 W.	9.5	6, 7	18 31 42.87	21 47 23.25		21 46 55.37
* 21 W.	9	8, 9, 10	18 35 57.00	21 30 30.06		21 29 58.46
B. A. C., 6461	4	13, 15	18 48 46.69	21 17 55.28		21 17 12.72
B. A. C., 6454	6	17, 19, 20	18 48 25.59	20 50 49.81		20 50 7.49
* 22 W.	8	23	18 53 48.53	20 37 10.90		20 36 23.90
B. A. C., 6550	7	27	19 0 57.10	20 2 8.27		20 1 15.30
Lalande, 36087	8.5	31, Nov. 1	19 6 35.58	21 2 25.67	19 7 11.21	21 1 27.94
B. A. C., 6616	7	November 6	19 12 49.50	19 30 36.00		19 29 33.05
* 23 W.	9	7	19 16 18.66	19 20 32.33		19 19 26.51
B. A. C., 6707	7	11	19 27 41.14	19 10 44.80	19 28 16.16	19 9 29.65
B. A. C., 6710	7	15, 17	19 28 20.86	18 33 33.25	19 28 55.73	18 32 18.29
Lalande, 38140	8.5	28, 29, Dec. 1	19 52 56.15	17 16 30.10		17 14 54.96
* 24 W.	9	November 26	19 48 52.35	17 28 49.06		17 27 17.08
Madrass, 1483	8	December 1	19 56 49.65	16 47 37.87		16 45 59.58
Lalande, 39247, 8	8	14	20 27 19.78	15 27 53.54	20 18 12.50	15 25 29.81
Weisse XX, 664	9	17, 18, 19	20 26 22.53	14 57 6.09	20 26 56.11	14 55 6.29
Weisse XX, 860	9	23	20 33 29.04	14 26 2.77		14 23 56.54
Weisse XX, 1031	8.5	26	20 40 16.55	— 14 5 25.48		— 14 3 17.15

RESULTS OF OBSERVATIONS

WITH

THE EQUATORIAL,

IN

1852.

APPARENT PLACES OF HYGEA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
January 7	7 39 0.5	Santini, 10	5	0 8 57.04	+ 4 58 48.39
7	8 47 12.8	Santini, 10	3	0 8 59.25	+ 4 59 5.40

MEAN PLACES OF STARS COMPARED WITH HYGEA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0.		1860.0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Santini, 10	7.5	January 7	0 7 56.25	+ 4 59 35.37	0 8 26.99	+ 5 2 55.84

APPARENT PLACES OF PARTHENOPE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
January 24	7 34 17.5	B. A. C., 641	7	1 57 15.17	+ 7 3 58.12
27	7 56 56.2	Weisse Catalogue, I, 1040	5	2 0 27.40	7 27 48.35
30	9 47 34.3	B. A. C., 672	4	2 3 51.74	7 52 27.11
February 8	8 2 4.6	Santini, 138	6	2 14 24.55	9 5 15.54
14	8 3 11.4	Weisse Catalogue, II, 305	4	2 22 3.57	+ 9 54 54.47

MEAN PLACES OF STARS COMPARED WITH PARTHENOPE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0.		1860.0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
B. A. C., 641	7	January 24	1 56 56.58	+ 7 0 52.58	1 57 28.19	+ 7 3 47.98
Weisse I, 1040	7	27	1 58 17.16	7 31 49.44	1 58 48.74	7 34 43.74
B. A.C., 672	6.5	30	2 3 26.26	7 51 56.71	2 3 57.82	7 54 47.79
Santini, 138	7	February 8	2 16 29.93	9 1 58.10		9 4 43.88
Weisse II, 305	8	14	2 18 43.27	+ 9 53 14.67	2 19 15.31	+ 9 56 0.36

APPARENT PLACES OF EUNOMIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
January 1	5 52 8.7	Weisse Catalogue, XX, 1394	3	20 51 17.33	− 13 1 4.69
7	6 15 47.9	1888 G. 12 Y. C.	10	21 2 21.39	12 3 42.66
13	6 9 3.5	Weisse Catalogue, XXI, 346	3	21 13 27.62	11 3 48.27
14	6 4 22.5	Weisse Catalogue, XXI, 346	5	21 15 18.41	− 10 53 34.38

MEAN PLACES OF STARS COMPARED WITH EUNOMIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XX, 1394	7	January 1	20 54 12.43	− 13 1 56.26	20 54 45.39	− 12 59 37.96
Weisse XXI, 346	9	13, 14	21 15 5.00	11 13 33.65		11 11 1.48
Gr. 12 Yr., 1888	4.5	7	21 1 25.16	− 11 58 32.09	21 1 57.85	− 11 56 9.72

APPARENT PLACES OF EGERIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
February 17	9 43 16.5	B. Z., 467, 59	5	12 19 29.00	+ 23 4 39.64
March 10	10 3 20.3	B. Z., 412, 6	8	11 59 26.19	24 34 27.57
18	9 40 2.3	B. Z., 503, 23	3	11 50 38.00	24 43 48.67
31	9 11 0.5	Rumker, 3738	10	11 37 13.23	24 11 55.41
April 2	9 22 31.4	B. Z., 353, 57	6	11 35 23.65	24 3 7.73
13	8 54 51.6	B. Z., 496, 59	20	11 27 8.69	22 57 5.30
15	7 58 34.6	B. Z., 496, 59	20	11 25 58.72	22 42 2.86
23	8 15 19.6	B. Z., 496, 50	10	11 22 29.05	21 34 4.56
24	10 48 56.0	B. Z., 496, 49	5	11 22 8.85	21 23 56.07
24	10 48 56.0	B. Z., 436, 50	5	11 22 8.99	21 23 56.07
25	8 12 51.6	B. Z., 496, 49	5	11 21 54.39	21 15 26.04
25	8 12 51.6	B. Z., 496, 50	5	11 21 54 55	21 15 24.30
May 10	10 33 6.8	Rumker, 3575	5	11 21 12.26	18 38 10.14
10	10 37 14.1	Rumker, 3615	4	11 21 12.71	18 38 10.22
20	10 37 31.6	B. Z., 457, 86	3	11 24 1.20	16 42 52.40
25	10 15 59.7	Rumker, 3636	16	11 26 12.33	15 42 44.89
June 10	10 43 1.0	Rumker, 3706	4	11 36 30.31	12 24 1.21
July 8	8 51 49.5	Santini, 829	12	12 3 6.70	6 23 51.35
9	8 52 23.3	Rumker, 3860	20	12 4 13.03	6 10 49.27
10	9 13 59.5	Rumker, 3860	8	12 5 20.65	5 57 36.52
11	8 47 51.0	Weisse Catologue, XII, 91	11	12 6 26.94	5 44 50.28
August 1	8 32 23.5	Weisse Catalogue, XII, 515	7	12 31 49.05	+ 1 11 26.30
7	8 34 41.1	Weisse Catalogue, XII, 661	4	12 39 36.61	− 0 6 26.14

MEAN PLACES OF STARS COMPARED WITH EGERIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Bessel's Zones, 467, 59	8.5	February 17	12 16 57.66	+ 23 0 3.81	12 17 27.98	+ 22 56 43.78
Bessel's Zones, 412, 6	9	March 10	12 0 23.34	24 32 14.00		24 28 53.41
Bessel's Zones, 503, 23	8.5	18	11 51 23.34	24 47 27.74		
Bessel's Zones, 353, 57	8	April 2	11 30 53.33	24 9 34.85	11 31 24.78	24 6 15.84
Rumker, 3738	6.5	March 31	11 39 14.02	24 33 11.96	11 39 45.27	24 29 52.17
Bessel's Zones, 496, 59	8.5	April 13, 15	11 26 20.44	22 51 6.37	11 26 51.92	22 47 47.90
Bessel's Zones, 496, 50	8	23, 24, 25	11 18 34.82	21 20 41.75		21 17 24.38
Bessel's Zones, 496, 49	8	24, 25	11 18 20.67	21 13 25.47		
Bessel's Zones, 457, 86	9	May 20	11 27 14.18	16 50 20.02	11 27 45.44	
Rumker, 3575	9	10	11 18 39.72	18 41 3.50	11 19 11.21	
Rumker, 3615	6	10	11 23 41.66	18 34 41.71	11 24 13.03	18 31 23.59
Rumker, 3636	8	25	11 26 19.79	15 43 18.76	11 26 51.03	15 40 0.30
Rumker, 3706	8	June 10	11 34 55.86	12 41 42.95	11 35 26.80	12 38 23.52
Rumker, 3860	9	July 9, 10	12 4 18.10	6 10 35.60		
Santini, 829	6	8	12 2 24.76	6 38 26.16		
Weisse XII, 91	9	11	12 6 25.73	5 50 3.40	12 6 56.39	5 46 42.94
Weisse XII, 515	8.5	August 1	12 30 52.34	+ 1 2 35.83	12 31 23.02	+ 0 59 17.14
Weisse XII, 661	8	7	12 38 51.35	− 0 0 2.44	12 39 22.06	− 0 3 20.08

APPARENT PLACES OF VICTORIA.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1852.		h. m. s.			h. m. s.	° ′ ″
January	25	7 58 17.5	* 25 W.	6	7 33 6.75	+ 10 21 40.47
	26	8 20 51.1	* 25 W.	16	7 32 6.40	10 23 59.89
February	3	8 6 59.3	Weisse Catalogue, VII, 756	9	7 24 44.98	10 44 27.08
	4	7 32 49.6	Weisse Catalogue, VII, 756	4	7 23 55.64	10 47 9.66
	8	9 1 44.1	Weisse Catalogue, VII, 551	6	7 20 50.59	10 50 24.74
March	3	7 51 27.6	Weisse Catalogue, VII, 320	3	7 10 10.52	12 8 47.08
	7	8 9 3.6	Weisse Catalogue, VII, 320	4	7 9 55.11	12 19 34.35
	10	8 26 59.4	Weisse Catalogue, VII, 368	5	7 10 1.14	12 27 17.92
	18	7 34 13.8	Weisse Catalogue, VII, 319	5	7 11 22.04	12 45 44.37
April	15	10 44 9.7	Weisse Catalogue, VII, 816	4	7 27 20.28	13 22 29.88
	16	8 45 36.6	Weisse Catalogue, VII, 816	9	7 28 6.97	13 22 55.42
	23	9 51 42.8	Weisse Catalogue, VII, 1053	8	7 34 24.91	13 23 24.82
	24	9 46 38.8	Weisse Catalogue, VII, 1053	4	7 35 21.63	13 23 10.54
	25	8 52 28.1	Weisse Catalogue, VII, 1053	6	7 36 17.67	13 22 57.71
	27	8 19 56.9	Rumker, 2282	6	7 38 14.57	+ 13 21 35.49

MEAN PLACES OF STARS COMPARED WITH VICTORIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
* 25 W.	9	January 25, 26	7 32 50.96	+ 10 28 18.87	7 33 23.94	
Weisse VII, 756	9	February 3, 4	7 24 24.10	10 44 14.42	7 24 57.17	+ 10 43 1.99
Weisse VII, 551	7	8	7 18 11.65	10 54 5.86	7 18 44.78	
Weisse VII, 320	9	March 3, 7	7 10 36.41	12 6 35.96	7 11 9.85	12 5 34.88
Weisse VII, 368	9	10	7 12 23.69	12 25 53.29	7 12 57.20	
Weisse VII, 319	9	18	7 10 35.63	12 35 10.96	7 11 9.18	12 34 9.98
Weisse VII, 816	9	April 15, 16	7 26 30.92	13 20 2.35	7 27 4.58	13 18 48.19
Weisse VII, 1053	9	23, 24, 25	7 34 4.00	13 35 32.21	7 34 37.67	13 34 11.98
Rumker, 2282	9	27	7 38 55.23	+ 13 10 57.75	7 39 28.71	+ 13 9 33.55

APPARENT PLACES OF ENCKE'S COMET.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1852.		h. m. s.			h. m. s.	° ′ ″
Januaay	12	6 47 18.0	Weisse Catalogue, XXIII, 48	4	23 5 27.14	+ 4 4 57.55
	12	6 47 18.0	Weisse Catalogue, XXIII, 111	4	23 5 27.52	4 4 55.29
	14	6 41 7.9	Weisse Catalogue, XXIII, 111	6	23 7 47.68	4 14 42.92
	19	6 48 14.5	B. A. C., 8127	4	23 14 8.32	4 45 14.52
	22	6 55 19.5	Weisse Catalogue, XXIII, 359	6	23 18 12.70	5 4 56.04
	23	6 43 33.8	Santini, 1633	5	23 19 36.07	5 11 56.03
	24	6 41 39.5	Santini, 1633	8	23 21 2.67	5 19 0.97
	25	6 49 57.6	Santini, 1635	10	23 22 31.22	5 26 22.19
	26	7 2 14.9	Weisse Catalogue, XXIII, 458	3	23 24 0.49	5 33 52.00
	27	6 42 2.3	Weisse Catalogue, XXIII, 458	6	23 25 28.39	5 41 2.46
February	2	6 53 27.7	Santini, 1649	14	23 34 59.17	6 28 56.17
	3	6 55 40.3	Santini 1649	10	23 36 38.51	6 37 13.35
	7	7 21 40.0	* 26 W.	10	23 43 35.19	7 11 20.89
	8	6 46 26.8	B. A. C., 8272	7	23 45 17.11	7 19 38.23
	9	6 58 45.1	Santini, 1664	13	23 47 6.27	7 28 19.41
	12	6 44 14.0	Santini, 1671	3	23 52 35.76	7 53 58.11
	14	6 54 59.6	Santini, 1671	12	23 56 21.49	8 10 39.30
	17	7 3 42.1	Santini, 8	8	0 2 6.54	8 34 27.42
	29	6 54 58.4	Santini, 31	7	0 23 57.52	9 17 36.60
March	1	6 59 34.1	Santini, 31	8	0 25 21.70	9 12 26.17
	3	6 54 41.3	Weisse Catalogue, O, 436	9	0 27 39.07	8 54 12.85
	6	7 1 45.6	Weisse Catalogue, O, 491	14	0 29 15.13	7 59 41.35
	7	6 57 46.1	Weisse Catalogue, O, 476	11	0 29 5.38	7 32 1.32
	10	6 59 7.6	Weisse Catalogue, O, 450	5	0 25 46.52	+ 5 31 23.30

MEAN PLACES OF STARS COMPARED WITH ENCKE'S COMET.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			a	δ	*a*	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XXIII, 48	7.5	January 12	23 3 36.67	+ 4 11 27.30	23 4 7.14	
Weisse XXIII, 111	8	12, 14	23 6 23.14	4 10 54.89	23 6 53.63	+ 4 14 11.79
Weisse XXIII, 359	9	22	23 17 43.52	5 13 2.99	23 18 14.00	
B. A. C., 8127	6	19	23 12 42.10	4 33 48.17	23 13 12.65	4 37 4.63
Santini, 1633	8.5	23, 24	23 20 38.09	5 15 0.82	23 21 8.60	5 18 18.92
Santini, 1635	8.5	25	23 21 54.16	5 16 38.54		
Santini, 1649	6.5	February 2, 3	23 34 18.25	6 25 14.05	23 34 48.79	
Weisse XXIII, 458	8.5	January 26, 27	23 22 44.05	5 35 58.65	23 23 14.56	5 39 16.53
* 26 W.	9.5	February 7	23 42 50.81	7 16 52.84	23 43 19.92	7 20 12.84
B. A. C., 8272	7	8	23 40 32.75	7 24 47.51		
Santini, 1664	7	9	23 47 57.52	7 23 19.51	23 48 28.14	7 26 42.44
Santini, 1671	7	12, 14	23 54 43.61	8 7 18.59		8 10 39.11
Santini, 8	7	17	0 4 5.84	8 18 21.61	0 4 36.58	8 21 43 06
Santini, 31	7	29, March 1	0 26 24.51	9 28 41.72	0 26 55.49	
Weisse O, 436	9	March 3	0 25 43.50	8 56 33.17	0 26 14.44	
Weisse O, 491	8	6	0 28 39.28	8 2 53.90		
Weisse O, 476	9	7	0 27 45.21	7 19 12.63	0 28 16.13	7 22 32.03
Weisse O, 450	8	10	0 26 24.76	+ 5 7 45.10		+ 5 11 4.69

APPARENT PLACES OF MARS S. P.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	*a*	δ
1852.	h. m. s.			h. m. s.	° ′ ″
January 24	10 10 10.1	B. Z., 344, 32	7	8 29 22.49	+ 23 38 1.99
February 2	9 46 39.0	B. Z., 344, 19	8	8 14 37.73	24 25 16.34
3	9 47 30.8	B. A. C., 2789	9	8 13 5.38	+ 24 29 22.20

APPARENT PLACES OF MARS N. P.

January 24	10 12 21.9	B. Z., 344, 32	5	8 29 22.41	+ 23 38 22.34
February 2	9 47 25.4	B. Z., 344, 19	8	8 14 37.70	24 25 35.39
3	9 50 30.1	B. A. C., 2789	9	8 13 4.89	+ 24 29 41.68

MEAN PLACES OF STARS COMPARED WITH MARS.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			a	δ	*a*	δ
			h. m. s.	° ′ ″		
Bessel's Zones, 344, 32	8	January 24	8 28 7.60	+ 23 46 2.15		
Bessel's Zones, 344, 19	9	February 2	8 16 1.26	24 25 27.76		
B. A. C., 2789	6	3	8 11 36.51	+ 24 29 25.09		

APPARENT PLACES OF FLORA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
March 31	10 0 38.1	Weisse Catalogue, XII, 360	4	12 23 43.76	+ 7 43 22.87
April 2	10 28 23.1	Weisse Catalogue, XII, 360	6	12 21 46.93	7 55 20.33
10	9 36 46.1	Weisse Catalogue, XII, 221	10	12 14 22.07	+ 8 35 5.93

MEAN PLACES OF STARS COMPARED WITH FLORA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XII, 360		March 31, April 2	12 21 27.03	+ 7 41 49.15	12 21 57.58	
Weisse XII, 221		April 10	12 13 51.00	+ 8 39 18.30		

APPARENT PLACES OF PSYCHE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
May 6	11 50 16.2	Weisse Catalogue, IX, 1259	4	9 55 17.69	+ 13 30 9.76
7	8 14 30.2	Rumker, 3061	9	9 55 40.15	13 28 27.87
10	9 0 45.9	Rumker, 3061	14	9 57 5.54	13 21 54.39
13	9 36 19.1	* 29 W.	19	9 58 39 82	13 14 31.63
18	8 56 28.5	Rumker, 3069	10	10 1 32.27	13 0 34.97
18	9 13 48.7	α Leonis,	4	10 1 32.26	13 0 34.47
20	8 31 23.8	α Leonis,	6	10 2 46.71	12 54 26.83
20	8 31 23.8	Weisse Catalogue, X, 45	6	10 2 46.70	12 54 26.86
24	8 30 2.7	Weisse Catalogue, X, 45	9	10 5 26.31	12 41 5.93
25	8 41 5.6	Weisse Catalogue, X, 45	3	10 6 7.70	12 40 51.35
31	9 27 0.4	Rumker, 3113	11	10 10 36.43	12 14 33.25
June 9	9 50 32.4	Rumker, 3172	6	10 18 0.07	11 35 37.54
10	8 52 25.2	Rumker, 3172	12	10 18 50.26	11 30 52.42
11	9 17 42.0	Rumker, 3172	5	10 19 43.88	11 26 3.35
11	9 19 50.0	Weisse Catalogue, X, 316	4	10 19 44.14	11 26 2.75
12	9 13 3 9	Weisse Catalogue, X 316	4	10 20 37.35	11 21 14.75
15	8 42 48.8	Weisse Catalogue, X, 377	8	10 23 18.85	+ 11 6 30.74

MEAN PLACES OF STARS COMPARED WITH PSYCHE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Rumker, 3061	8.5	May 7, 10	9 56 50.25	+ 13 34 22.12	9 57 22.62	+ 13 31 29.71
Weisse IX, 1259	8	6	9 58 33.28	13 30 39.88	9 59 5.62	13 27 46.70
* 29 W.	9	13	9 57 25.36	13 15 56.82	9 57 57.68	13 13 4.15
Rumker, 3069	7.5	18	10 0 13.33	12 43 39.91	10 0 45.55	12 40 46.00
α Leonis,	1	18, 20	10 0 22.54	12 41 54.67	10 0 54.76	12 39 0.70
Weisse X, 45	8	20, 24, 25	10 3 33.56	12 46 25.31	10 4 5.75	12 43 29.96
Rumker, 3113	9	31	10 8 10.01	12 24 47.96	10 8 42.10	12 21 50.70
Rumker, 3172	8.5	June 9, 10, 11	10 17 0.39	11 37 46.78	10 17 32.30	11 34 46.03
Weisse X, 316	7.5	11,12	10 18 29.21	11 15 56.95	10 19 1.06	11 12 55.64
Weisse X, 377	9	15	10 21 23.92	+ 11 17 29.80	10 21 55.75	+ 11 14 27.42

APPARENT PLACES OF THETIS.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
May 19	12 16 17.8	Weisse Catalogue, XI, 947	9	11 56 44.97	+ 8 29 15.93
20	9 56 21.2	Weisse Catalogue, XI, 947	8	11 56 59.82	8 25 33.91
31	10 22 9.8	Weisse Catalogue, XI, 1023	6	12 1 42.57	7 29 20.33
June 2	10 33 52.9	Weisse Catalogue, XI, 1023	4	12 2 52.59	7 17 2.53
9	11 7 38.2	Weisse Catalogue, XII, 63	6	12 7 40.13	6 29 41.00
10	10 11 55.9	Rumker, 3907	4	12 8 24.22	6 22 43.33
10	10 11 55.9	Rumker, 3911	4	12 8 24.36	6 22 44.81
11	9 57 54.2	Rumker, 3907	4	12 9 10.43	6 15 25.98
11	9 57 24.2	Rumker, 3911	4	12 9 10.70	6 15 25.08
13	9 45 2.1	Weisse Catalogue, XII, 160	4	12 10 47.81	6 0 22.60
15	10 3 49.5	Weisse Catalogue, XII, 160	9	12 12 30.62	5 44 42.96
20	9 50 13.0	Rumker, 3966	6	12 17 5.05	5 3 57.05
29	9 42 36.5	Weisse Catalogue, XII, 433	7	12 26 23.04	3 44 45.06
July 2	10 14 33.6	Weisse Catalogue, XII, 463	6	12 29 47.02	3 16 26.39
3	10 16 51.4	Weisse Catalogue, XII, 463	6	12 30 56.38	3 6 56.06
5	9 45 18.7	Santini, 861	6	12 33 15.71	2 47 56.07
5	9 45 18.7	Weisse Catalogue, XII, 564	6	12 33 16.01	2 47 55.68
8	9 46 9.6	Weisse Catalogue, XII, 583	6	12 36 53.94	2 18 40.84
8	10 6 49.7	Weisse Catalogue, XII, 584	3	12 36 55.28	2 18 25.98
9	9 53 44.5	Weisse Catalogue, XII, 584	6	12 38 8.53	2 8 40.45
10	10 2 19.8	Weisse Catalogue, XII, 638	5	12 39 23.73	1 58 41.67
15	9 9 2.9	Santini, 876	7	12 45 46.60	1 8 21.86
15	9 9 2.9	Weisse Catalogue, XII, 764	7	12 45 46.91	1 8 21.77
18	8 50 49.1	Santini, 879	6	12 49 45.72	0 37 25.72
19	8 49 15.5	Lalande, 24193	15	12 51 7.43	0 27 2.03
19	8 52 33.0	Lalande, 24193	15	12 51 7.60	0 27 2.57
20	8 57 26.7	Lalande, 24193	9	12 52 30.16	+ 0 16 30.43
August 2	8 50 4.3	Weisse Catalogue, XIII, 181	5	13 11 20.88	— 2 3 28.10
6	8 37 29.9	Weisse Catalogue, XIII, 294	12	13 17 22.57	2 47 23.49
14	8 25 29.7	Rumker, 4377	7	13 30 2.78	4 16 16.64
15	8 30 25.8	Weisse Catalogue, XIII, 563	7	13 31 39.90	— 4 27 21 43

MEAN PLACES OF STARS COMPARED WITH THETIS.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XI, 947	9	May 19, 20	11 55 4.71	+ 8 39 33.18	11 55 35.47	+ 8 36 12.66
Weisse XI, 1023	9	31, June 2	12 0 1.97	7 36 12.23	12 0 32.69	7 32 51.67
Weisse XII, 63	8	June 9	12 4 37.79	6 42 33.26	12 5 8.48	6 39 12.74
Rumker, 3907	8.5	10, 11	12 12 0.86	6 22 53.98	12 12 31.50	6 19 33.71
Rumker, 3911	8	10, 11	12 12 16.71	6 30 15.29	12 12 47.35	6 26 55.03
Weisse XII, 160	9	13, 15	12 10 29.49	5 55 42.08	12 11 0.14	5 52 21.74
Rumker, 3966	8	20	12 18 15.52	5 1 52.60	12 18 46.14	4 58 32.69
Weisse XII, 433	9	29	12 25 58.11	3 44 24.16	12 26 28.73	3 41 4.91
Weisse XII, 463	8	July 2, 3	12 27 37.11	3 5 11.08	12 28 7.74	3 1 52.00
Santini, 861	7	5	12 30 43.13	2 40 51.92		
Weisse XII, 564	7	5	12 33 52.88	2 49 16.85	12 34 23.50	2 45 58.51
Weisse XII, 583	9	8	12 34 44.20	2 26 27.27	12 35 14.83	2 23 9.04
Weisse XII, 584	8.5	8, 9	12 34 48.97	2 9 15.52	12 35 19.61	2 5 57.30
Weisse XII, 638	9	10	12 37 39.27	1 52 46.23	12 38 9.92	1 49 28.40
Santini, 876	7	15	12 44 10.85	0 54 11.67		
Weisse XII, 764	9	15	12 44 46.87	1 2 46.21	12 45 17.54	0 59 29.51
Santini, 879	7	18	12 47 58.05	0 52 11.62		
Lalande, 24193	8.5	19, 20	12 52 12.92	+ 0 34 49.87	12 52 43.61	+ 0 31 34.54
Weisse XIII, 181	9	August 2	13 11 11.80	— 1 44 22.83	13 11 42.64	— 1 47 33.72
Weisse XIII, 294	8.5	6	13 18 23.72	2 52 43.37	13 18 54.67	2 55 52.23
Weisse XIII, 563	8.5	15	13 32 37.38	4 29 2.68	13 33 8.51	— 4 32 7.00
Rumker, 4377	9	14	13 29 35.47	— 4 1 16.13		

APPARENT PLACES OF VENUS S. P.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1852.		h. m. s.			h. m. s.	° ′ ″
May	31	8 10 44.7	B. Z., 339, 86	8	7 46 38.55	+ 23 52 33.64
June	5	8 19 50.7	B. Z., 279, 192	5	8 1 36.00	22 50 36.33
	9	8 22 36.4	Lalande, 16236	6	8 11 58.68	21 57 15.52
	11	9 18 16.0	Lalande, 16582	5	8 16 33.79	21 29 47.95
	26		B. Z., 274, 30	4	7 42 1.52	15 56 57.61
August	26	15 43 37.6	Lalande, 15125	4	7 42 1.37	15 56 58.10
	29	15 44 41.4	B. A. C., 2639	4	7 48 15.24	+ 15 59 25.55

APPARENT PLACES OF VENUS N. P.

May	31	8 13 47.2	B. Z., 339, 86	7	7 46 39.18	+ 23 53 4.64
June	5	8 20 36.8	B. Z., 279, 192	5	8 1 36.18	22 51 12.42
	9	8 18 31.0	Lalande, 16236	6	8 11 58.15	21 57 56.75
	11	9 13 26.2	Lalande, 16582	5	8 16 33.33	21 30 33.83
	26		B. Z., 27430	4	7 42 1.73	15 57 41.55
August	26	15 48 31.8	Lalande, 15125	4	7 42 1.60	15 57 42.04
	29	15 46 58.3	B. A. C., 2639	4	7 48 15.64	+ 16 0 5.47

MEAN PLACES OF STARS COMPARED WITH VENUS.

STAR.	Magnitude.	DATE OF COMPARISON.		1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
				h. m. s.	° ′ ″		
Bessel's Zones, 339, 86		May	31	7 47 7.53	24 0 56.05		
Bessel's Zones, 279, 192		June	5	7 59 8.30			
Lalande, 16236			9	8 10 7.35			
Lalande, 16582			11	8 19 22.41	21 38 38.86		
Bessel's Zones, 274, 30			26				
Lalande, 15125		August	26	7 38 50.88	15 53 17.38		
B. A. C., 2639			29	7 48 28.29	16 11 10.90		

APPARENT PLACES OF MELPOMENE.

MEAN TIME — WASHINGTON.			COMPARISON STAR.	No. of Comp.	α	δ
1852.		h. m. s.			h. m. s.	° ′ ″
July	27	11 7 3.3	B. A. C., 6049	21	17 43 59.92	− 11 1 53.19
	28	8 50 21.3	B. A. C., 6049	5	17 43 33.35	11 8 10.75
	28	9 18 38.6	B. A. C., 6049	10	17 43 32.59	11 8 18.67
	28	9 44 17.3	B. A. C., 6049	5	17 43 32.05	11 8 27.06
August	1	10 10 51.8	Weisse Catalogue, XVII, 810	14	17 41 54.27	11 37 2.80
	3	10 17 15.6	Weisse Catalogue, XVII, 834	10	17 41 17.55	11 51 37.52
	6	9 30 23.6	Weisse Catalogue, XVII, 834	10	17 40 37.45	12 13 28.77
	6	10 11 13.7	Weisse Catalogue, XVII, 834	9	17 40 37.27	12 13 41.35
	7	10 48 55 7	Weisse Catalogue, XVII, 834	7	17 40 27.48	12 21 18.69
	12	9 59 38.6	Weisse Catalogue, XVII, 835	11	17 40 13.46	12 58 37.14
	13	10 11 0.8	Weisse Catalogue, XVII, 835	10	17 40 16.34	13 5 53.09
	14	9 27 41.7	Weisse Catalogue, XVII, 787	14	17 40 21.12	13 13 31.64
	15	9 15 0.2	Weisse Catalogue, XVII, 787	20	17 40 28.03	13 21 0.65
	17	10 16 35.3	Weisse Catalogue, XVII, 787	11	17 40 49.32	− 13 35 19.47

APPARENT PLACES OF MELPOMENE. — Continued.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
August 18	9 6 43.1	Weisse Catalogue, XVII, 787	16	17 41 1.58	— 13 43 35.57
19	8 37 46.9	Weisse Catalogue, XVII, 846	14	17 41 16.41	13 51 4.33
26	8 34 7.9	Weisse Catalogue, XVII, 867	15	17 44 0.31	14 43 1.88
29	9 43 15.1	Weisse Catalogue, XVII, 867	7	17 45 40.73	15 5 13.61
29	9 43 15.1	Weisse Catalogue, XVII, 966	7	17 45 41.15	15 5 18.34
30	9 37 15.1	Weisse Catalogue, XVII, 966	9	17 46 17.73	15 12 28 55
31	8 12 51.1	Weisse Catalogue, XVII, 966	20	17 46 53.03	15 19 13.55
September 1	8 22 27.2	* 37 W.	10	17 47 34.95	15 26 21.15
2	8 43 57.5	B. A. C., 6065	14	17 48 17.48	15 33 28.05
5	7 52 31.6	B. A. C., 6065	9	17 50 33.29	15 54 5.08
5	7 52 31.6	Madras, 1209	9	17 50 33.75	15 54 8.63
7	7 50 41.9	Lalande, 32986	12	17 52 13.61	16 7 47.48
13	9 44 55.9	Lalande, 33178	14	17 57 55.10	16 47 5.77
16	8 6 23.6	A. Z., 228, 1	10	18 1 9.20	17 5 52.03
16	8 6 23.6	A. Z., 218, 37	10	18 1 9.08	17 5 51.54
17	7 36 57.9	* 33 W.	14	18 2 15.35	17 15 27.11
18	7 16 42.4	* 33 W.	8	18 3 23.02	17 21 22.00
19	7 28 26.3	* 33 W.	6	18 4 34.26	17 27 18.13
22	7 25 21.4	* 34 W.	10	18 8 14.09	17 40 48.05
26	6 52 7.5	Lalande, 33694	10	18 13 25.48	18 2 6.78
27	7 21 9.2	Lalande, 33694	5	18 14 48.88	18 7 32.99
27	7 25 36.7	Lalande, 33966	4	18 14 49.19	18 7 34.82
28	7 9 36.6	Lalande, 33966	12	18 16 11.26	18 12 34.31
29	7 5 49.0	Lalande, 33966	20	18 17 35.50	18 17 30.00
30	6 56 58.9	Lalande, 33966	20	18 19 0.60	18 22 17.04
October 1	7 1 53.3	B. A. C., 6293	10	18 20 28.80	18 27 5.55
1	7 1 53.3	B. A. C., 6294	10	18 20 27.88	18 27 5.63
2	6 45 28.6	B. A. C., 6293	10	18 21 56.03	18 31 39.14
2	6 45 28.6	B A. C., 6294	10	18 21 55.33	18 31 40.26
5	6 55 7.5	Lalande, 34401	14	18 26 27.98	18 44 55.70
5	7 2 45.1	Lalande, 34354	10	18 26 28.52	18 44 57.51
8	6 49 52.8	Lalande, 34401	10	18 31 10.33	18 57 12.18
8	6 52 22.8	* 35 W.	9	18 31 10.50	18 57 11.37
10	6 37 18.7	* 35 W.	6	18 34 23.88	19 4 41.07
10	6 37 18.7	* 36 W.	6	18 34 23.88	19 4 41.37
11	6 36 56.5	* 36 W.	20	18 36 2.63	19 8 17.36
15	7 5 21.1	Madras, 1304	10	18 42 51.50	19 21 33.09
16	6 40 7.3	Madras, 1304	10	18 44 33.65	19 24 28.24
19	7 8 33.4	Lalande, 35497	3	18 49 53.21	19 32 40.70
20	6 30 17.8	Lalande, 35497	8	18 51 38.76	19 35 6.53
21	6 25 52.8	Lalande, 35497	14	18 53 27.39	19 37 26.42
23	6 22 21.6	Lalande, 35497	10	18 57 8.19	19 41 39.49
24	7 0 13.5	B. A. C., 6536	12	18 59 3.79	19 43 39.14
25	6 35 14.3	B. A. C., 6536	10	19 0 54.27	19 45 22.68
November 7	7 20 36.2	Lalande, 36857	6	19 26 36.87	19 55 38.39
9	6 32 17.4	* 38 W.	4	19 30 31.42	19 54 18.53
19	7 13 40.3	Lalande, 38164	5	19 52 1.44	19 42 48.28
21	6 38 25.0	Lalande, 38164	4	19 56 20.42	19 38 39.85
21	6 38 25.0	B. A. C., 6923	4	19 56 20.60	19 38 39.51
27	6 1 15.7	B. A. C., 6981	16	20 9 34.34	19 22 16.42
28	5 47 30.9	B. A. C., 6981	8	20 11 47.50	19 19 4.70
30	6 4 57.9	B. A. C., 7053	5	20 16 19.58	19 11 58.54
30	6 4 57.9	B A. C., 7054	5	20 16 19.14	19 11 52.57
December 1	6 1 5.6	B. A. C., 7053	10	20 18 34.80	19 8 12.49
1	6 1 5.6	B. A. C., 7054	10	20 18 34.50	19 8 7.40
5	7 4 40.5	B. A. C., 7134	4	20 27 47.26	18 51 30.64
8	6 25 21.1	B. A. C., 7159	13	20 34 36.89	18 37 38.46
12	6 29 56.8	B. A. C., 7209	4	20 43 52.80	18 16 51.28
13	5 58 29.5	B. A. C., 7249	14	20 46 9.79	18 12 26.47
17	6 12 8.8	B. A. C., 7282	5	20 55 31.58	17 47 38.03
18	6 0 10.6	B. A. C., 7322	12	20 57 51.25	17 41 26.18
29	6 25 50.9	* 39 W.	7	21 23 54.08	— 16 22 45.25

MEAN PLACES OF STARS COMPARED WITH MELPOMENE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
B. A. C., 6049		July 27, 28	17 44 43.58	— 10 51 26.23	17 45 16.83	— 10 51 41.19
Weisse XVII, 810		August 1	17 40 43.89	11 17 7.74		11 17 24.30
* 32 W.		2	17 41 11.59	10 51 23.95		10 51 40.22
Weisse XVII, 834		3, 6, 7	17 41 59.45	12 6 37.35	17 42 33.02	12 6 52.79
Weisse XVII, 835		12, 13	17 42 4.57	12 53 8.75	17 42 38.33	12 53 24.18
Weisse XVII, 787		14, 15, 17, 18	17 39 36.14	13 32 49.86		13 33 7.49
Weisse XVII, 857		19	17 43 4.32	13 55 15.41	17 43 38.35	13 55 30.02
Weisse XVII, 867		26, 29	17 43 29.65	14 58 53.45		14 59 7.65
Weisse XVII, 966		29, 30, 31	17 47 44.33	15 9 13.05		15 9 23.55
* 33 W.		September 17, 18, 19	18 2 2.43	17 13 36.18	18 2 37.29	17 13 34.14
* 34 W.		22	18 5 54.29	17 24 0.69	18 6 29.20	17 23 55.27
* 35 W.		October 8, 10	18 29 53.97	18 54 25.99		18 53 59.57
* 36 W.		10, 11	18 35 16.73	18 54 23.98		18 53 52.89
* 37 W.		September 1	17 47 47.12	15 17 42.17		
B. A. C., 6065		2, 5	17 47 41.34	15 46 48.85		15 47 1.29
Madras, 1209		5	17 48 11.21	15 39 23.78		15 39 33.86
Lalande, 32986		7	17 53 31.15	16 13 3.91	17 54 5.76	16 13 9.15
Lalande, 33178		13	17 58 31.89	16 40 0.96	17 59 6.61	16 40 1.91
Lalande, 33694		26, 27	18 11 4.92	17 45 25.00	18 11 39.93	17 48 15.04
Lalande, 33966		27, 28, 29, 30	18 17 40.04	18 9 58.87	18 18 15.13	18 9 43.17
A. Z., 228,1		16	17 55 55.36	17 1 55.09		
A. Z., 218,37		16	17 59 6.34	17 10 7.09		
Lalande, 34401		October 5, 8	18 27 43.98	18 54 12.74		18 53 48.29
Lalande, 34354		5	18 26 48.82	18 39 49.43	18 27 24.02	18 39 25.76
Lalande, 35497		19, 20, 21, 23	18 54 14.00	19 27 24.30		19 26 37.02
Lalande, 36857		November 7	19 22 55.28	19 41 47.57		19 40 36.33
B. A. C., 6293		October 1, 2	18 22 37.06	18 21 38.25		18 21 18.19
B. A. C., 6294		1, 2	18 22 38.82	18 30 1.33		18 29 41.28
B. A. C., 6536		24, 25	18 59 27.87	19 31 11.78		19 30 20.08
B. A. C., 6923		November 21	20 1 43.65	19 48 54.52	20 2 18.36	19 47 14.75
B. A. C., 6981		27, 28	20 10 43.99	19 34 57.06	20 11 18.70	19 33 7.35
B. A. C., 7053		30, Dec. 1	20 21 16.23	19 4 43.48		19 2 47.32
B. A. C., 7054		30, Dec. 1	20 21 17.58	19 4 25.15		19 2 35.30
B. A. C., 7134		December 5	20 31 30.28	18 39 46.39		18 37 41.59
B. A. C., 7159		8	20 34 7.53	18 38 32.50		18 36 26.44
B. A. C., 7209		12	20 40 49.52	18 35 7.21		
B. A. C., 7249		13	20 46 19.04	18 29 17.66		18 27 2.81
B. A. C., 7282		17	20 52 24.82	18 6 43.91		18 4 25.99
B. A. C., 7322		18	20 57 30.66	17 49 31.49		17 47 13.01
* 38 W.		November 9	19 26 21.91	19 53 21.48	19 26 57.12	19 52 7.29
* 39 W.		December 29	21 22 41.20	16 30 39.30		16 28 5.40
Madras, 1304		October 15, 16	18 44 8.42	19 17 40.20		19 17 1.57
Lalande, 38164		November 19, 21	19 53 18.76	— 19 30 32.30	19 53 53.64	— 19 28 56.91

APPARENT PLACES OF IRENE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
September 1	10 35 47.4	Lalande, 45804	10	23 18 47.58	— 18 50 0.64
1	10 44 17.5	Lalande, 45838	7	23 18 47.74	18 50 2.97
2	10 21 15.1	Lalande, 45838	4	23 17 56.84	18 56 5.21
5	9 7 29.5	Lalande, 45704	6	23 15 23.22	19 13 31.30
7	8 42 16.3	Lalande, 45704	10	23 13 38.91	19 24 43.63
28	9 6 13.0	* 41 W.	4	22 56 29.07	20 43 7.91
29	8 48 17.1	* 41 W.	5	22 55 48.29	20 44 48.01
30	8 23 58.1	* 41 W.	5	22 55 8.86	20 46 17.22
October 2	9 40 33.3	* 41 W.	3	22 53 50.14	20 49 11.16
7	10 56 28.0	Lalande, 44877	6	22 50 55.04	20 51 26.49
8	10 2 14.0	Lalande, 44877	10	22 50 25.25	20 51 27.92
11	9 14 9.3	Lalande, 44877	6	22 49 1.49	20 50 13.80
15	9 18 23.0	Lalande, 44877	6	22 47 26.76	20 46 11.04
15	9 21 0.1	Lalande, 44823	5	22 47 26.69	20 46 9.36
16	10 15 28.2	Lalande, 44823	3	22 47 5.78	— 20 44 40.33

MEAN PLACES OF STARS COMPARED WITH IRENE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. a	1850.0. δ	1860.0. a	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Lalande, 45804		September 1	23 16 0.07	− 18 36 43.01	23 16 31.64	
Lalande, 45838		1, 2	23 17 19.76	18 55 8.10		
Lalande, 45704		5, 7	23 13 2.78	19 21 47.01		
Lalande, 44877		October 7, 8, 11, 15	22 49 34.05	21 4 32.47		
Lalande, 44823		15, 16	22 47 27.02	− 20 56 14.55		

APPARENT PLACES OF COMET II., 1852.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	a	δ
1852.	h. m. s.			h. m. s.	° ′ ″
September 5	9 59 28.8	A. Z., 145, 126	8	2 1 3.88	+ 49 7 10.97
5	9 59 28.8	A. Z., 153, 111	8	2 1 3.77	49 7 10.46
7	9 31 45.7	A. Z., 55, 49	10	2 3 35.12	52 18 2.27
8	9 40 24.5	A. Z., 154, 131	12	2 4 45.94	53 55 11.33
13	11 22 23.5	A. Z., 59, 20	6	2 12 16.68	+ 62 0 28.55
16	10 36 0.0	B. A. C., 744	6		

MEAN PLACES OF STARS COMPARED WITH COMET II., 1852.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. a	1850.0. δ	1860.0. a	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
A. Z., 145, 126		September 5	2 2 12.11	+ 48 53 16.83	2 2 50.67	48 56 9.59
A. Z., 153, 111		5	2 2 59.01	49 4 26.85	2 3 37.66	+ 49 7 18.95
A. Z., 55, 49		7	2 3 32.54	52 21 6.63		
A. Z., 154, 131		8	2 4 34.37	53 49 35.81	2 5 14.61	
A. Z., 59, 20		13	2 13 9.33	62 0 8.59		
B. A. C., 744		16	2 16 46.68	66 43 26.00	2 17 34.93	66 46 11.70

APPARENT PLACES OF FORTUNA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	a	δ
1852.	h. m. s.			h. m. s.	° ′ ″
September 13	10 8 14.2	Weisse Catalogue, XXII, 13	6	22 3 58.53	− 9 32 59.55
16	9 19 41.0	Weisse Catalogue, XXII, 13	10	22 2 0.48	9 47 4.62
16	9 23 2.8	Weisse Catalogue, XXII, 13	1	22 2 0.36	9 47 5.46
16	9 43 6.6	Weisse Catalogue, XXI, 1375	4	22 2 0.62	9 47 13.57
17	9 8 18.4	Weisse Catalogue, XXI, 1375	10	22 1 24.58	9 51 31.43
18	9 19 22.6	Weisse Catalogue, XXI, 1375	8	22 0 48.88	9 55 57.47
22	8 20 23.4	Weisse Catalogue, XXI, 1375	10	21 58 45.23	10 11 56.64
26	8 19 26.1	Weisse Catalogue, XXI, 1333	23	21 57 7.79	10 25 47.08
27	8 33 57.8	Weisse Catalogue, XXI, 1333	10	21 56 47.83	10 28 52.97
28	7 54 15.9	Weisse Catalogue, XXI, 1333	10	21 56 30.33	10 31 43.19
29	8 1 38.5	Weisse Catalogue, XXI, 1333	10	21 56 14.07	10 34 28.68
30	7 44 51.5	Weisse Catalogue, XXI, 1333	10	21 55 59.98	10 37 3.33
October 1	9 6 51.0	Weisse Catalogue, XXI, 1333	5	21 55 47.05	10 39 34.65
2	8 53 42.7	Weisse Catalogue, XXI, 1333	7	21 55 36.91	10 41 49.64
5	9 53 23.7	Weisse Catalogue, XXI, 1333	6	21 55 17.61	10 47 35.88
7	10 21 34.9	Weisse Catalogue, XXI, 1333	6	21 55 14.69	10 50 29.88
8	9 28 41.1	Weisse Catalogue, XXI, 1333	6	21 55 15.92	10 51 41.59
11	8 44 49.9	Weisse Catalogue, XXI, 1333	6	21 55 31.88	10 54 15.87

APPARENT PLACES OF FORTUNA, — Continued.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
October 15	8 27 24.1	Weisse Catalogue, XXI, 1333	6	21 56 19.98	— 10 55 15.19
16	8 7 21.6	Weisse Catalogue, XXI, 1333	4	21 56 36.51	10 55 3.57
19	10 3 27.7	Weisse Catalogue, XXI, 1333	6	21 57 40.16	10 53 23.97
20	8 52 35.6	Weisse Catalogue, XXI, 1333	3	21 58 3.83	10 52 35.29
21	9 9 34.7	Weisse Catalogue, XXI, 1333	4	21 58 30.41	10 51 39.08
21	9 9 34.7	Weisse Catalogue, XXI, 1384	4	21 59 30.20	10 51 25.26
23	8 19 8.1	Weisse Catalogue, XXI, 1384	10	21 59 27.05	10 48 49.55
24	9 9 37.3	Weisse Catalogue, XXI, 1384	10	21 59 59.83	10 47 10.45
25	8 29 9.7	Weisse Catalogue, XXI, 1384	4	22 0 31.91	10 45 28.46
November 25	8 47 52.4	Weisse Catalogue, XXII, 467	7	22 24 59.11	8 58 25.93
27	7 4 9.1	Weisse Catalogue, XXII, 641	12	22 32 23.25	8 20 55.77
28	7 11 0.2	Weisse Catalogue, XXII, 675	8	22 33 41.71	8 14 10.17
30	8 11 9.2	Weisse Catalogue, XXII, 761	16	22 36 24.10	7 59 55.28
December 1	7 25 21.4	Weisse Catalogue, XXII, 761	5	22 37 42.71	7 53 0.38
5	8 40 40 9	Weisse Catalogue, XXII, 900	4	22 43 20.36	7 22 51.14
8	7 7 57 5	Weisse Catalogue, XXII, 962	10	22 47 32.81	6 59 48.16
13	6 47 29.0	Weisse Catalogue, XXII, 1049	4	22 54 57.78	6 18 33.75
13	6 47 29.0	Weisse Catalogue, XXII, 1057	4	22 54 58.57	6 18 34.77
18	6 51 12.9	Weisse Catalogue, XXII, 1272	5	23 2 44.48	5 34 13.44
18	6 51 12.9	Weisse Catalogue, XXII, 1283	5	23 2 44.67	— 5 34 14.11

MEAN PLACES OF STARS COMPARED WITH FORTUNA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850.0. α	1850.0. δ	1860.0. α	1860.0. δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XXII, 13		September 13, 16	22 1 34.04	— 9 32 1.47	22 2 5.86	— 9 29 6.64
Weisse XXI, 1375		16, 22	21 59 20.43	9 54 41.81		
Weisse XXI, 1333		26, Oct. 21	21 57 35.51	10 37 21.82	21 58 7.48	
Weisse XXI, 1384		October 21, 23, 24, 25	21 59 47.41	10 48 28.12	22 0 19.40	10 45 35.02
Weisse XXII, 467		November 21	22 22 3.00	9 11 2.88	22 22 34.60	9 7 58.03
Weisse XXII, 641		27	22 30 29.96	8 40 31.19	22 31 1.45	
Weisse XXII, 675		28	22 31 39.10	8 22 59.58	22 32 10.57	8 19 53.18
Weisse XXII, 761		30, Dec. 1	22 35 22.43	7 59 57.38	22 35 53.82	7 56 49.06
Weisse XXII, 900		December 5	22 42 42.68	7 42 8.57	22 43 13.99	7 39 0.25
Weisse XXII, 962		8	22 45 50.00	6 54 18.33	22 46 21.22	
Weisse XXII, 1049		13	22 50 21.82	6 29 13.56	22 50 52.99	
Weisse XXII, 1057		13	22 50 48.71	6 28 31.09	22 51 19.88	— 6 25 19.29
Weisse XXII, 1272		18	23 0 9.31	5 35 12.92	23 0 40.36	
Weisse XXII, 1283		18	23 0 53.79	— 5 35 24.86	23 1 24.84	

APPARENT PLACES OF MASSALIA.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
October 19	9 4 18.3	Weisse Catalogue, XXIII, 1039	12	23 47 3.69	— 1 1 36.92
20	8 8 15.3	Weisse Catalogue, XXIII, 1039	7	23 46 29.64	1 5 39.54
21	8 13 30.5	* 59 W.	8	23 45 56.15	1 9 47.30
23	7 43 48.4	* 59 W.	10	23 44 53.77	1 17 22.48
24	8 26 47.3	* 59 W.	6	23 44 23.91	1 21 2.30
25	8 3 44.7	Weisse Catalogue, XXIII, 817	6	23 43 56.64	1 24 23.07
November 7	8 10 52.3	Weisse Catalogue, XXIII, 817	5	23 40 36.82	1 51 26.34
7	8 10 52.3	Weisse Catalogue, XXIII, 830	5	23 40 35.95	1 51 28.20
9	7 43 51.2	Weisse Catalogue, XXIII, 817	12	23 40 31.32	1 52 41.96
December 1	6 55 56.7	Weisse Catalogue, XXIII, 916	5	23 47 14.92	1 17 5.29
15	7 31 27.4	Weisse Catalogue, XXIII, 1267	8	23 57 52.48	0 12 13.58
17	6 48 46.6	Weisse Catalogue, XXIII, 1267	8	23 59 42.10	— 0 0 53.27
18	8 4 12.0	Weisse Catalogue, XXIII, 1267	6	0 0 42.85	+ 0 5 26.06

MEAN PLACES OF STARS COMPARED WITH MASSALIA.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Weisse XXIII, 1039		October 19, 20	23 50 23.66	— 0 57 44.87	23 50 54.56	— 0 54 24.47
* 59 W.		21, 23, 24	23 47 10.37	1 6 53.74		1 3 33.69
Weisse XXIII, 817		25, Nov. 7, 9	23 40 0.50	1 35 40.56	23 40 31.58	
Weisse XXIII, 830		November 7	23 40 30.46	1 36 27.84	23 41 1.54	1 33 7.32
Weisse XXIII, 916		December 1	23 45 1.28	1 38 33.09	23 45 32.34	1 35 12.94
Weisse XXIII, 1267		15, 18	0 1 11.23	— 0 8 33.53	0 1 41.95	— 0 5 12.97

APPARENT PLACES OF CALLIOPE.

MEAN TIME — WASHINGTON.		COMPARISON STAR.	No. of Comp.	α	δ
1852.	h. m. s.			h. m. s.	° ′ ″
December 17	7 40 44.5	B. Z., 396,104	2	4 42 26.65	+ 26 35 12.33
17	9 7 14.3	B. Z., 396,104	10	4 42 22.63	26 35 21.94
18	8 47 44.9	B. Z., 396,104	5	4 41 24.09	+ 26 38 26.96

MEAN PLACES OF STARS COMPARED WITH CALLIOPE.

STAR.	Magnitude.	DATE OF COMPARISON.	1850. 0.		1860. 0.	
			α	δ	α	δ
			h. m. s.	° ′ ″	h. m. s.	° ′ ″
Bessel's Zones, 396, 104		December 17, 18	4 43 41.39	+ 26 31 22.68	4 44 18.42	+ 26 32 27.94

CATALOGUE

OF

STARS OBSERVED

IN

1851 AND 1852.

Number.	STAR.	Mag.	Y.	In	O.	R.A. 1850.	DEC. 1850.	Y.	In.	O.
						h. m. s.	° ′ ″			
1	α Andromedæ	1	1851	T.	3	0 0 38.51	+28 15 43.10	1851	M.	1
			1851	C.	2	38.57	45.84	1851	C.	3
			1852	T.	3	38.46	45.50	1852	M.	6
			1852	C.	3	38.53	44.43	1852	C.	1
2	Weisse O, 4	8	1851	T.	1	1 27.22	+11 58	- -	-	-
3	Anonymous	9	1851	C.	1	2 56.30	+11 59 5.05	1851	C.	1
4	γ Pegasi	2	1851	T.	8	5 30.93	+14 21 4.40	1851	M.	2
			1851	C.	2	31.05	20 59.04	1851	C.	3
			1852	T.	3	30.96	20 58.53	1852	M.	3
			1852	C.	2	30.97	21 5.85	1852	C.	1
5	51 Piscium	6.5	- -	-	-	24 40	+ 6 7 37.60	1852	M.	4
6	α Cassiopeiæ	3	- -	-	-	- - -	+55 43 4.70	1851	M.	2
			1851	C.	2	32 1.50	42 53.10	1851	C.	2
			- -	-	-	- - -	51.50	1852	M.	2
			1852	C.	2	1.46	47.55	1852	C.	1
7	Weisse O, 572	9	- -	-	-	33.15	+ 6 26 28.40	1852	M.	1
8	β Ceti	2.5	1851	T.	6	36 3.39	−18 48 30.85	1851	M.	6
			1851	C.	1	3.39	- - - -	- -	-	-
			1852	T.	1	3.52	36.18	1852	M.	5
9	Weisse O, 635	8.5	- -		-	36 34	+ 6 57 3.40	1852	M.	1
10	Weisse O, 657	8	- -	-	-	37 55	+ 7 1 23.10	1852	M.	1
11	Weisse O, 680	9	- -	-	-	39 7	+ 7 29 13.30	1852	M.	1
12	φ^2 Ceti	5.5	1851	T.	1	42 36.77	−11 27	- -	-	-
13	20 Ceti	5	1852	C.	1	45 20.75	− 1 57 37.89	1852	C.	1
14	Weisse O, 965	7	- -	-	-	54 53	+ 8 19 36.40	1852	M.	1
15	η Ceti	3.5	-	-	-	1 1 2	+ 2 36 2.20	1851	M.	1
16	Polaris	2	1851	T.	12	1 5 1.43	+88 30 35.76	1851	M.	7
			1851	C.	15	0.94	34.37	1851	C.	15
			1852	T.	11	0.49	34.05	1852	M.	21
			1852	C.	17	0.78	35.43	1852	C.	31
			- -	-	-	0	37.80	1851	M.	2
17	Weisse I, 100	8	- -	-	-	7 0	+ 8 56 52.50	1852	M.	1
18	θ Ceti	3	1851	T.	4	16 31.57	− 8 57 22.73	1851	M.	3
			1851	C.	1	32.10	- - - -	- -	-	-
			1852	T.	1	31.53	34.05	1852	M.	2
19	Weisse I, 299	8	- -	-	-	18 5	+ 9 37 33.20	1852	M.	1
20	μ Piscium	4.5	1852	C.	1	22 19.84	+ 5 22 8.04	1852	C.	1
21	ν Piscium	5	1852	C.	1	33 37.81	+ 4 43 37.83	1852	C.	1
22	Weisse I, 513	7.5	- -	-	-	29 42	+11 18 29.90	1852	M.	1
23	Weisse I, 655	8	- -	-	-	35 50	+ 4 59 17.90	1852	M.	1
24	Anonymous	- -	- -		-	42 2	+13 36 4.90	1852	M.	1
25	Weisse I, 885	7.5	- -	-	-	47 38	+11 50 7.80	1852	M.	1
26	Weisse I, 896	8.5	- -	-	-	50 31	+15 11 50.20	1852	M.	1
27	Weisse I, 943	8.5	- -	-		52 46	+12 39 20.75	1852	M.	2
28	Weisse I, 973	7	- -	-	-	54 31	+12 45 4.10	1852	M.	2
29	B. Z., 394, 164	8	- -	-	-	58 24	+16 22 16.40	1852	M.	1
30	α Arietis	2	1851	T.	5	58 43.67	+22 45 3.60	1851	M.	1
			1851	C.	3	43.65	1.17	1851	C.	1
			1852	T.	4	43.59	3.77	1852	M.	7
			1852	C.	4	43.52	3.24	1852	C.	4
31	Lalande, 4238	8.5	1851	T.	1	2 9 27.85	+17 45 25.30	1851	M.	1
32	Ceti (B. A. C., 708)	6	1851	T.	1	10 14.06	− 1 2 46	- -		-
33	Anonymous	-	1852	C.	1	13 8.64	+62 3 18.22	1852	C.	1
34	Anonymous	- -	1852	C.	1	14 0.00	+62 3 7.62	1852	C.	1
35	ξ Arietis	5.5	- -		-	16 47	+ 9 55 46.15	1852	M.	2
36	Lalande, 4460	9.5	- -	-	-	17 17	+18 52 27.00	1852	M.	1
37	71 Ceti	6	1851	T.	1	17 23.70	− 3 27 38	- -	-	-
38	ξ^2 Ceti	4	1851	T.	1	20 11.33	+ 7 47 6	- -		-
39	Fornaeis (B. A. C., 773)	8.5	1851	T.	1	23 4.31	−23 21 8	- -	-	-
40	Rumker, 654	6	- -		-	25 4	+19 46 28.90	1852	M.	1
41	ν Ceti	4.5	1851	T.	1	28 0.40	+ 4 46 8	- -	-	
42	Anonymous	- -	1851	T.	1	30 59.08	+10 25	- -	-	-
43	γ Ceti	3	1851	T.	4	35 31.93	+ 2 36 9.70	1851	M.	1
			1851	C.	1	31.46	- - - -	- -	-	
			1852	T.	3	31.97	5.90	1852	M.	3
			1852	C.	2	31.73	5.52	1852	C.	2

NOTE. — The columns Y., In., O., contain respectively the Year of Observation, the Instrument, and the Number of Observations.

Number.	STAR.	Mag.	Y.	In.	O.	R.A. 1850.	DEC. 1850.	Y.	In.	O.
						h. m. s.	° ′ ″			
44	Weisse II, 790	8	- -	-	-	2 45 43	+ 8 43 16.85	1852	M.	2
45	B. A. C., 905	6.5	- -	-	-	48 12	+ 7 46 30 40	1852	M.	1
46	4 Eridani	5.5	1851	T.	1	50 43.45	—24 27 51.15	1851	M.	2
			- -	-	-	- -	28 0.30	1852	M.	1
47	α Ceti	2.5	1851	T.	5	54 26.55	+ 3 30 3.20	1851	M.	1
			1852	T.	2	26.53	29 55.07	1852	M.	4
			1852	C.	2	26.52	55.01	1852	C.	2
48	α Eridani	3.5	1851	T	2	3 5 41.98	—29 34 48.80	1852	M.	1
49	α Persei	2.5	1851	T.	4	13 38.21	- -	- -	-	-
			1851	C.	2	38.07	- - -	- -	-	-
			1852	T.	7	38.08	+49 19 20.95	1852	M.	4
			1852	C.	4	38.26	18.09	1852	C.	4
50	o Tauri	4.5	1851	T.	1	16 44.69	+ 8 29 50.90	1851	M.	1
			1851	C.	1	44.81	- - - -	-		-
51	B. A. C., 1063	6	- -	-	-	18 9	+49 19 22.10	1852	M.	1
52	66 Arietis	6.5	1852	T.	1	19 41.05	+22 17	- -	-	
53	*f* Tauri	5.5	1851	T.	1	22 35.78	+12 25	- -	-	-
54	Weisse III, 447	8	- -	.	-	25 2	+13 16 23.60	1852	M.	1
55	Weisse III, 474	9	- -	-	-	26 14	+13 40 7.00	1852	M.	1
56	9 Tauri	6	1852	T.	1	28 9.39	+22 43	- -	-	-
57	21 Eridani	6	1851	T.	1	31 36.98	— 6 6	- -	-	-
58	η Tauri	3	1351	T.	4	38 34.54	+23 38	- -	-	-
			1852	T.	2	34.48	+23 38 15.40	1852	M.	1
			1852	C.	1	34.56	15.11	1852	C.	1
59	Anonymous	- -	- -	.	-	40 36	+11 12 13.90	1852	M.	1
60	27 τ^6 Eridani	4.5	- -	-	-	40 23	—23 41 41.00	1851	M.	1
61	Anonymous	- -	- -	-	-	46 0	+15 42 2.10	1852	M.	1
62	30 τ^8 Eridani	5	- -	-	-	47 20	—25 3 27.60	1851	M.	1
63	γ^1 Eridani	2.5	1851	T.	3	51 2.01	- - -	-	-	-
			1851	C.	1	1.97	- - -	- -	.	-
			1852	T.	2	2.04	—13 56 18.00	1852	M.	2
			1852	C.	1	1.99	19.65	1852	C.	1
64	57 Tauri	5.5	-	-	-	4 11 31	+13 40 10.50	1852	M.	1
65	ε Tauri	3.5	1851	T.	1	19 51.77	+18 51	- -	-	-
66	α Tauri	1	1851	T.	8	27 19.03	+16 12	- -	-	-
			1851	C.	7	19.02	+16 12 13.00	1851	C.	1
			1852	T.	11	19.02	12.78	1852	M.	9
			1852	C.	4	19.07	10.15	1852	C.	3
67	50 o^6 Eridani	4.5	- -	-	-	27 37	—25 3 27.60	1851	M.	1
68	54 Eridani	6	1851	T.	1	33 52.83	—19 57	- -	-	-
69	B. A C., 1468	6	- -	-	-	37 31	+18 27 34.25	1852	M.	1
70	B. A C., 1478	6	- -	-	.	39 55	+18 27 27.60	1852	M.	1
71	96 Tauri	6	1851	T.	1	41 9.45	+15 38	- -	-	-
72	99 Tauri	6.5	1851	T.	1	48 42.88	+23 43	- -	-	-
73	B. A. C., 1537	6.5	- -	-	-	50 28	+14 18 35.30	1852	M.	1
74	101 Tauri	7	1852	T.	1	51 7.97	+15 41	- -	-	-
75	11 Orionis	5	1851	T.	2	56 0.03	+15 11	- -	-	
76	1 Leporis	6	1852	T.	1	56 25.14	—23 0	- -	-	-
77	β Eridani	3	1852	T.	1	5 0 28 76	— 5 17	- -	.	-
78	15 Orionis	5	1851	T.	1	1 7.02	+15 24	- -	-	-
79	α Aurigæ	1	1851	T.	3	5 36.92	- - - -	- -	-	-
			1851	C.	1	36.81	- - -	- -	-	-
			1852	T.	1	36.77	+45 50 22.02	1852	M.	-
			1852	C.	5	36.91	19.55	1852	C.	5
80	B. A. C., 1618	7	1852	T.	1	6 20.58	—13 7	- -	-	-
81	β Orionis	1	1851	T.	6	7 19.89	— 8 22 39.25	1851	M.	2
			1851	C.	3	19.83	- - - -	-	-	.
			1852	T.	10	19.84	43.07	1852	M.	3
			1852	C.	2	19.84	48.64	1852	C.	3
82	β Tauri	2	1851	T.	11	16 48.77	- - - -	-	-	-
			1851	C.	6	48.74	+28 28 33.39	1851	C.	2
			1852	T.	8	48.72	33.40	1852	M.	4
			1852	C.	5	48.73	29.04	1852	C.	4
83	δ Orionis	2	1851	T.	10	24 20.71	— 0 24 45.90	1851	M.	1
			1851	C.	7	20.68	53.42	1851	C.	1

Number.	STAR.	Mag.	Y.	In.	O.	R.A. 1850.	DEC. 1850.	Y.	In.	O.
						h. m. s.	° ′ ″			
83	δ Orionis	2	1852	T.	6	5 24 20.74	− 0 24 50.72	1852	M.	4
			1852	C.	1	20.75	53.16	1852	C.	1
84	α Leporis	3.5	1851	C.	2	26 6.94	−17 55 59.50	1852	M.	2
85	ε Orionis	2.5	1851	T.	7	28 36.22	− 1 18 3.10	1851	M.	1
			1851	C.	3	36.28	- - -	-	-	-
			1852	T.	10	36.30	6.07	1852	M.	3
			1852	C.	4	36.19	13.12	1852	C.	3
86	α Columbæ	2	1851	T.	4	34 13.11	- - -	- -	-	1
			1851	C.	5	13.12	−34 9 28.25	1851	C.	1
			1852	T.	2	13.28	25.60	1852	M.	5
			1852	C.	1	13.17	26.46	1852	C.	1
87	α Orionis	1	1851	T.	10	47 3.14	+ 7 22 33.60	1851	M.	1
			1851	C.	7	3.12	28.36	1851	C.	2
			1852	T.	9	3.17	28.99	1852	M.	9
			1852	C.	6	3 07	26.64	1852	C.	6
88	μ Geminorum	3	1851	T.	5	6 13 53.14	+22 35 8.80	1851	M.	1
			1851	C.	2	53.00	35 10.98	1851	C.	1
			1852	T.	2	53.12	+22 35 10.16	1852	M.	5
			1852	C.	1	53.08	9.60	1852	C.	2
89	ν Geminorum	4	1851	T.	1	20 3.44	+20 18	- -	-	-
90	ξ¹ Canis Majoris	5	1851	T.	1	25 36.37	−23 18	- -	-	-
91	51 (Hev.) Cephei	5	1851	C.	9	28 31.77	+87 15 22.56	1851	M.	4
			1852	C.	2	32.57	20.80	1852	C.	2
			- -	-	-	- - -	+87 15 22.40	1852	M.	1
92	α Canis Majoris	1	1851	T.	13	38 32.27	−16 30 44.40	1851	M.	1
			1851	C.	9	32.24	49.00	1851	C.	3
			1852	T.	7	32.28	48.58	1852	M.	9
			1852	C.	7	32.34	51.34	1852	C.	6
93	37 Geminorum	6	1851	T.	1	46 5.03	+25 33	- -	-	-
94	ε Canis Majoris	2.5	1851	T.	12	52 43.80	−28 46 10.00	1851	M.	1
			1851	C.	8	43.87	15.13	1851	C.	4
			1852	T.	5	43.89	15.34	1852	M.	8
			1852	C.	5	43.89	17.84	1852	C.	6
95	26 Canis Majoris	6	1851	T.	3	7 6 3.92	−25 41 33.00	1852	M.	1
96	28 Canis Majoris	6	1851	T.	2	8 43.38	−26 30 54.50	1852	M.	1
97	B. A. C., 2393	6.5	1851	T.	1	8 47.33	−26 46 45.10	1851	M.	1
			- -	-	-	- - -	40 80	1852	M.	1
98	Weisse VII, 320	9	- -	-	.	10 36	+12 6 36.10	1852	M.	1
99	δ Geminorum	3.	1851	T.	9	11 9.62	- - - -	-	-	-
			1851	C.	2	9.30	+22 15 16.88	1851	C.	2
			1852	T.	2	9.60	15.18	1852	M.	4
			1852	C.	3	9.58	13.04	1852	C.	4
100	29 Canis Majoris	6	1851	T.	2	12 25.54	−24 17	- -	-	-
101	30 Canis Majoris	5	1851	T.	2	12 29.24	−24 40 59.20	1851	M.	1
101 *a*.	Anonymous	- -	- -	-	-	- - -	−24 42 12.90	1852	M.	1
102	α² Geminorum	1.5	1851	T.	11	25 1.29	+32 12 42.20	1851	M.	1
			1851	C.	3	0.98	43.57	1851	C.	3
			1852	T.	3	1.28	44.00	1852	M.	3
			1852	C.	1	1.26	44.63	1852	C.	2
103	68 Geminorum	5	1851	T.	1	25 2.58	+16 9	- -	-	-
			1851	C.	1	2.67	- - - -	1851	C.	1
104	α Canis Minoris	1	1851	T.	11	31 26.82	+ 5 36 19.80	1851	M.	1
			1851	C.	8	26.84	16.38	1851	C.	3
			1852	T.	6	27.07	19.28	1852	M.	6
			1852	C.	4	26.76	18.73	1852	C.	3
105	(* 25) W.	9	1852	T.	1	32 50.87	+10 28 19.20	1852	M.	1
106	κ Geminorum	4	1851	C.	1	35 23.05	+24 45 10.98	1851	C.	1
107	β Geminorum	2	1851	T.	10	36 7.74	- -	-	-	-
			1851	C.	2	7.63	+28 23 4.12	1851	C.	2
			1852	T.	5	7.76	3.50	1852	M.	2
			1852	C.	4	7.77	2.51	1852	C.	4
108	B. A. C., 2557	6	- -		-	36 36	+26 0 9.30	1851	M.	1
			- -	-	-	- - -	−25 59 46.77	1852	M.	3
109	82 Geminorum	7	- -	-	-	39 35	+23 30 28.28	1852	M.	4
110	B. A. C., 2599	6.5	- -	-	-	42 44	−24 32 21.40	1851	M.	1
			- -		–	- - -	17.60	1852	M.	1

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111	ξ Argus	3.5	1851	T.	1	7 42 59.10	−24 29 7.40	1851	M.	1
112	U. S. Astr. Exp., G. C. 49		- -	-	-	46 59	+25 3 21.80	1852	M.	1
113	Weisse 2, VII, 1212	8	1851	C.	1	55 47.31	+39 40 31.41	1851	C.	1
			1851	T.	1	47.59	- - -	- -	-	-
114	Lalande, 15729	7.5	1851	C.	1	56 12.85	+36 41 45.63	1851	C.	1
115	Rumker, 2390	- -	1851	T.	1	13.36	+36 45	- -	-	
116	μ^1 Cancri	6	-	-		57 25	+23 3 40.00	1852	M.	2
117	B. A. C., 2703	7	- -	-		57 42	+22 53 1.17	1852	M.	3
118	15 Argus	3.5	1851	T.	3	8 1 9.26	- - - -	- -	-	
			1851	C.	1	9.46	−23 52 32.61	1851	C.	1
			1852	T.	4	9.41	29.45	1852	M.	2
			1852	C.	1	9.50	28.74	1852	C.	1
119	λ Cancri	6	- -	-	-	11 36	+24 29 27.33	1852	M.	6
120	24 v^2 Cancri	7	-	-	-	17 44	+25 1 24.60	1852	M.	1
121	28 v^2 Cancri	6.5	- -	-	-	19 42	+24 38 21.40	1852	M.	2
122	30 v^3 Cancri	6	- -	-	-	22 37	+24 34 59.15	1852	M.	2
123	32 v Cancri	7	- -	-	-	24 7	+24 35 28.60	1852	M.	1
124	δ Cancri	4.5	1851	T.	3	36 9.22	+18 42 8.79	1851	C.	1
			1852	T.	1	9.41	7.50	1852	M.	1
			1852	C.	1	9.33	8.88	1852	C.	1
125	Anonymous	- -	1852	T.	1	37 3 32	- - - -	- -	-	-
126	ε Hydræ	4	1851	T.	3	38 49.72	+ 6 57 57.90	1851	M.	1
			1851	C.	2	49.65	57.23	1851	C.	2
			1852	T.	3	49.67	55.55	1852	M.	2
			1852	C.	1	8 38 49.75	+ 6 57	- -		-
127	12 Hydræ	6	1852	T.	1	39 17.06	−13 01	- -	-	
128	ι Ursæ Majoris	3.5	1851	T.	2	48 54.74	+48 37	- -	-	-
			1851	C.	1	54.54	- - - -	- -	-	-
			1852	T.	2	54.59	- - - -	- -	-	-
129	α Cancri	4	1851	T.	2	50 16.71	- - -	- -	-	-
			1851	C.	1	16.76	- - - -	-	-	-
			1852	T.	1	17.23	- - - -	- -	-	
			1852	C.	1	16.68	+12 25 59.97	1852	C.	1
130	ξ Cancri	5.5	1852	T.	1	9 0 43.47	+22 38	- -	-	-
131	π Cancri	6	1852	T.	1	6 56.52	+25 33	- -	-	-
132	B. A. C., 3194	7.5	1851	T.	1	14 50.40	+25 49 15.50	1852	M.	1
133	α Hydræ	2	1851	T.	4	20 12.97	− 7 59 37.30	1851	M.	1
			1851	C.	1	12.81	- - - -	- -		-
			1852	T.	3	12.90	− 8 0 40.80	1852	M.	6
			1852	C.	3	12.96	42.74	1852	C.	4
134	Weisse 2, IX, 486	8	1851	T.	2	22 52.24	+25 4 17.60	1852	M.	1
135	ξ Leonis	5	1852	T.	1	23 51.61	- - - -	-	-	-
			1852	C.	1	51.36	+11 57 25.91	1852	C.	1
136	Weisse 2, IX, 618	7	1851	T.	1	28 59.24	+36 30	- -	-	-
137	ο Leonis	4	1852	T.	1	33 8.42	- - - -	- -	-	-
			1852	C.	1	8.45	+10 34 15.71	1852	C.	1
138	ε Leonis	3	1851	T	8	37 19.68	+24 27 45.20	1851	M.	1
			1851	C.	1	19.56	48.57	1851	C.	1
			1852	T.	1	19.72	44.20	1852	M.	3
			1852	C.	1	19.66	44.83	1852	C.	4
139	19 Leonis Minoris	5.5	- -	-	-	48 28	+41 46 1.91	1852	C.	1
140	α Leonis	1	1851	T.	2	10 0 22.80	+12 41 56.35	1851	M.	2
			1851	C.	2	22.72	57.59	1851	C.	1
			1852	T.	1	22.75	53.46	1852	M.	12
			1852	C.	8	22.67	53.69	1852	C.	9
141	B. Z., 275, 106	9	- -	-	-	1 0	+21 3 56.60	1852	M.	1
142	γ Leonis	2	1851	T.	1	11 41.69	+20 35 54.40	1852	M.	1
143	Anonymous	- -	1852	C.	1	12 6.93	− 5 35 33.41	1852	C.	1
144	Weisse X, 224	7			-	13 12	− 4 37 46.05	1852	M.	2
145	μ Ursæ Majoris	3	1852	C.	1	13 22.60	+42 15	-	-	-
146	Weisse X, 229	4.5	- -	-	-	13 55	− 4 39 55.40	1852	M.	2
147	β Leonis Minoris	7	- -	-	-	19 11	+37 28 26.09	1852	C.	1
148	Weisse X, 538	8.5	1852	C.	1	29 58.10	−10 16 4.15	1852	C.	1
			- -	-	-	-	2.60	1852	M.	1
149	37 Leonis Minoris	4.5	1852	C.	1	30 16.02	+32 45	- -	-	-

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150	42 Leonis Minoris	-	- -	-	-	10 37 30	+31 28 12.52	1852	C.	2
151	ν Hydræ	4	1852	C.	1	42 13.59	−15 24	- -	-	-
152	Weisse X, 879	9	- -	-	-	48 31	−14 28 20.05	1852	M.	2
153	α Ursæ Majoris	1.5	1851	T.	3	54 25.33	- - - -	- -	-	-
			1851	C.	1	25.89	+62 33 35.45	1851	C.	1
			1852	T.	1	25.15	36.10	1852	M.	7
			1852	C.	6	25.67	35.07	1852	C.	7
154	χ^1 Hydræ	5	1852	T.	1	58 6.41	−26 29 1.50	1852	M.	1
155	χ^2 Hydræ	5	1852	T.	1	41.39	−26 28 39.10	1852	M.	1
156	δ Leonis	2.5	1851	T	4	11 6 7.38	- - - -	- -	-	-
			1851	C.	2	7.30	- - - -	- -	-	
			1852	T.	5	7.36	+21 20 40.70	1852	M.	3
			1852	C.	2	7.38	41.02	1852	C.	4
157	72 Leonis	5	- -	-	-	7 13	+23 54 45.05	1852	M.	2
158	δ Hydræ et Crateris	3.5	1851	T.	3	11 50.65	- - - -	- -	-	-
			1851	C.	2	50.53	- - - -	1851	C.	1
			1852	T.	5	50.68	+13 57 57.90	1852	M.	1
			1852	C.	1	50.77	- - -	1852	C.	1
159	λ Draconis	3.5	1852	C.	1	22 26.21	+70 10 13.71	1852	C.	1
160	B. A. C., 3925	7	1852	T.	1	25 10.34	- - -	- -	-	-
161	B. A. C., 3926	5.5	- -		-	25 30	−30 15 31.15	1852	M.	1
162	Anonymous	-	1852	C.	1	25 37.92	−31 0 42.99	1852	C.	1
163	21 θ Crateris	4	- -	-	-	11 29 4	− 8 58 24.40	1852	C.	1
164	B. A. C., 3945	6	- -	-	-	29 9	−32 44 15.90	1852	M.	1
165	Anonymous	- -	1852	C.	1	30 54.09	−35 53 37.14	1852	C.	1
166	B. Z., 353,57	9	- -	-	-	31	+24 9 35.15	1852	M.	2
167	Hydræ (B. A. C., 3969)	6	1851	T.	1	34 15.10	−31 39	- -	-	-
			1852	T.	1	34 15.10	- - - -	- -	-	-
168	B. A. C., 3973	6	- -	-	-	35 39	+42 33 21.00	1852	M.	1
169	B. A. C., 3975	6.5	1852	T.	2	36 15.52	− 5 50	- -	-	-
170	ζ Crateris	4	1852	C.	1	37 10.19	−17 28 12.84	1852	C.	1
171	93 Leonis	4	- -	-	-	11 40 14	+21 3 9.90	1852	M.	2
172	β Leonis	2.5	1851	T.	2	11 41 24.18	- - -	- -	-	-
			1851	C.	1	24.22	- -	- -	-	-
			1852	T.	6	24.22	+15 24 36.33	1852	M.	3
			1852	C.	5	24.32	39.64	1852	C.	3
173	B. A. C., 4014	7	- -	-	-	45 2	+16 16 24.80	1852	M.	2
174	γ Ursæ Majoris	2	1851	T.	2	45 54.87	- - - -	- -	-	-
			1852	T.	3	54.86	+54 31 39.00	1852	M.	2
			1852	C.	1	54.75	39.33	1852	C.	2
175	65 Ursæ Majoris	7	- -		-	47 16	+47 18 43.00	1852	M.	2
176	B. A. C., 4028	7	-	-	-	47 22	+47 18 17.55	1852	M.	2
177	Anonymous	- -	1852	C.	1	51 23.48	+24 44 22.66	1852	C.	1
178	π Virginis	5	- -	-	-	11 53	+ 7 27 3.39	1852	C.	1
179	2 Comæ	6	- -	-	-	56 35	+22 17 43.10	1852	M.	2
180	12 Virginis	6	1852	T.	2	12 5 47.52	+11 5	- -	-	-
181	4 Corvi	3	1852	C.	1	12 8 6.02	−16 42 40.26	1852	C.	1
182	2 Canum Venaticorum	5	- -	-	-	8 36	+41 29 45.50	1852	M.	1
183	Anonymous	- -	- -	-	-	11	+23 51 32.70	1852	M.	1
184	8 Comæ	6	- -	-	-	11 44	+23 52 7.60	1852	M.	1
185	Anonymous	-	1852	C.	1	11 58.67	-	- -	-	
186	η Virginis	3.5	1852	C.	1	12 13.81	+ 0 11 6.53	1852	C.	1
187	10 Comæ	6	1852	T.	1	17.53	+29 17	- -	-	-
188	6 Corvi	5.5	1852	T.	1	15 33.14	−24 0	- -	-	-
189	6 Canum Venaticorum	5.5	- -	-	-	18 27	+39 51 7.00	1852	M.	1
190	B. A. C., 4200	6.5	1852	T.	2	20 9.99	− 3 47	- -	-	-
191	20 Comæ	6.5	- -		-	22 11	+21 43 39.80	1852	M.	2
192	β Corvi	2.5	1851	T.	2	26 30.86	- - -	- -	-	-
			1852	T.	4	30.93	- - -	- -	-	-
			1852	C.	1	31.18	−22 34 11.34	1852	C.	1
193	Anonymous	- -	1852	C.	1	38.20	+22 33 5.97	1852	C.	1
194	Anonymous	-	- -	-	-	31 0	+15 37 43.30	1852	M.	1
195	9 Canum Venaticorum	6.5	- -	-	-	31 32	+41 42 4.30	1852	M.	1
196	Anonymous	- -	- -	-	-	34	+15 58 47.80	1852	M.	1
197	Anonymous	- -	1852	C.	1	34 3.40	+22 33 40.20	1852	M.	1

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198	γ Virginis	4	1851	T.	1	12 34 3.55	− 0 37	- -	-	-
			1851	C.	1	3.58	- - - -	- -	-	-
199	B. A. C., 4278	6	1852	T.	1	36 1.49	−27 29	- -	-	-
200	B. A. C., 4294	6.5	1852	T.	1	39 48.40	− 5 28	- -	-	
201	B. A. C., 4312	6.5	1852	T.	1	43 35.09	− 9 31	- -		
202	δ Virginis	3	1851	T.	1	48 2.83	+ 4 12	- -	-	-
203	12 Canum Venaticorum	2.5	1851	T.	1	59.94	- - - -	-	-	-
			1852	T.	4	49 0.14	- - - -	- -	-	
			1852	C.	4	0.22	+39 7 42.38	1852	C.	4
204	Anonymous	- -	1852	C.	4	58.96	- - -	- -	-	-
205	Anonymous	- -	- -	-	-	13 6	+15 51 9.70	1852	M.	1
206	Anonymous	- -	- -		-	7	+13 7 33.60	1852	M.	1
207	α Virginis	1	1851	T.	10	13 17 17.71	−10 22 35.30	1852	M.	1
			1851	C.	5	17.84	- - - -	- -	-	-
			1852	T.	4	17.80	- - - -	- -	-	-
			1852	C.	8	17.75	39.29	1852	C.	9
208	ζ Virginis	4	1851	T.	1	27 3 05	+ 0 50	- -	-	-
209	B. A. C., 4547	7	1852	C.	1	30 2.12	− 2 29 9.11	1852	C.	1
210	B. A. C., 4568	5	1852	C.	1	35 2 47	+55 26 32.49	1852	C.	1
211	η Ursæ Majoris	2.5	1851	T.	7	41 37.47	- - - -	- -	-	-
			1851	C.	3	37.37	- - -	-	-	
			1852	T.	3	37.31	- -	-	-	
			1852	C.	8	37.39	+50 3 48.81	1852	C.	9
212	η Bootis	3	1851	T.	9	47 32.48	- - - -	- -		
			1851	C.	3	32.42	- - - -	- -	-	-
			1852	T.	4	32.43	+19 9 5.80	1852	M.	1
			1852	C.	4	32.45	6.92	1852	C.	5
213	θ Centauri	2.5	1852	C.	1	57 52.49	- - - -	- -	-	-
			- -	-	-	- - -	−35 37 44.20	1852	M.	1
214	Anonymous	- -	1852	C.	1	59 12.44	−35 37 50.44	1852	C.	1
215	α Draconis	3.5	1852	C.	1	14 0 19.66	+65 5 38.29	1852	C	1
216	Hydræ (B. A. C., 4711)	6.5	1851	T.	1	4 39.36	−25 54 20.80	1852	M.	1
217	κ Virginis	4	1852	C.	1	4 53.84	− 9 34 21.54	1852	C.	1
218	α Bootis	1	1851	T.	10	8 49.21	+19 57 56.30	1851	M.	2
			1851	C.	7	49.22	57.97	1851	C.	4
			1852	T.	7	49.32	55.10	1852	M.	2
			1852	C.	10	49.15	55.83	1852	C.	10
219	λ Virginis	4	1851	T.	1	10 59.89	- - -	- -	-	-
			1852	C.	1	59.96	−12 40 40.46	1852	C.	1
220	51 Hydræ	6	1852	C.	1	14 27.93	- - - -	- -	-	-
221			- -	-	-	- -	−27 3 45.57	1852	M.	3
222	Anonymous	- -	1852	C.	1	14 45.94	- - - -	- -	-	-
223	Anonymous	- -	1851	T.	1	19 23.90	- - - -	- -		-
224	B. A. C., 4784	5.5	1852	C.	1	24.19	- - -	- -	-	-
225	104 Virginis	6.5	1852	T.	1	32.26	− 5 26	- -	-	-
226	ϱ Bootis	4	1852	T.	1	25 21.76	+31 1	-	-	-
227	4 Libræ	6	1851	T.	1	34 33.87	−24 21 17.80	1851	M.	1
			1851	C.	1	32.80	19.26	1851	C.	1
228	ε Bootis	3	1851	T.	11	38 26.10	+27 42 35.20	1851	M.	1
			1852	T.	4	26.10	- - - -	- -	-	-
			1852	C.	4	26.19	32.42	1852	C.	4
229	α^1 Libræ	6	1852	T.	3	42 23.88	−15 22 11.66	1852	M.	5
			1852	C.	1	23.84	- - -	- -	-	-
230	α^2 Libræ	3	1851	T.	11	35.20	- - - -	- -	-	-
			1851	C.	3	35.35	- - - -	- -	-	-
			1852	T.	5	35.26	−15 24 53.78	1852	M.	9
			1852	C.	2	35.36	58.18	1852	C.	3
231	12 Libræ	6	-	-	-	45 38	−24 1 29.80	1851	M.	1
232	β Ursæ Minoris	3	1851	T.	8	51 11.82	+74 46 7.65	1851	M.	2
			1851	C.	3	11.35	10.40	1852	M.	1
			1852	C.	3	11.80	8.12	1852	C.	1
233	60 Hydræ	6	1851	T.	1	53 10.51	−27 27	- -	-	-
234	β Bootis	3	1852	T.	1	56 17.63	+50 59	- -	-	-
235	46 b Bootis	- -	1852	T.	1	15 1 55.30	+26 52	- -	-	-
236	ι′ Libræ	5.5	1852	T.	1	3 40.73	−19 13	- -	-	-

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237	Anonymous	- -	1851	T.	1	15 5 51.77	- - - -	- -	-	-
238	β Libræ	2.5	1851	T.	8	8 56.44	− 8 49 33.00	1851	M.	2
			1851	C.	5	56.58	33.64	1851	C.	2
			1852	T.	4	56.46	33.70	1852	M.	7
			1852	C.	6	56.39	36.18	1852	C.	5
239	Weisse XV, 265	8	- -	-	-	15 9	−13 48 34.25	1852	M.	2
240	7 Serpentis	6	1852	T.	1	15 17.04	+13 6	- -	-	-
241	Weisse XV, 281	7.5	- -		-	15 42	−13 46 20.40	1852	M.	2
242	10 Serpentis	5.5	1852	T.	1	21 3.65	+ 2 22	- -	-	-
243	Weisse XV, 400	- -	- -	-	-	- - -	−14 17 38.80	1852	M.	1
244	α Coronæ Borealis	2.5	1851	T.	9	28 20.28	- - - -	- -	-	-
			1851	C.	4	20.20	- - - -	- -	-	-
			1852	T.	5	20.18	+27 13 21.20	1852	M.	1
			1852	C.	5	20.22	19.57	1852	C.	3
245	Weisse XV, 637	- -	1851	C.	1	33 43.29	−15 4 8.06	1851	C.	1
246	Libræ (B. A. C., 5184)	7	1851	T.	1	34 20.28	- - - -	- -	-	-
247	α Serpentis	2.5	1851	T.	5	36 52.90	- - - -	- -	-	-
			1851	C.	1	53.25	+ 6 54 3.93	1851	C.	1
			1852	T.	4	52.86	- - - -	- -	-	-
			1852	C.	-	52.94	3.78	1852	C.	3
248	Lalande 28697	7	- -	-	-	37	−16 28 32.80	1852	M.	1
249	Anonymous	- -	- -	-	-	- - -	−16 11 50.90	1852	M.	1
250	Weisse XV, 845	- -	1851	T.	2	43 34.19	−14 18 56.70	1851	M.	1
251	Anonymous	- -	1851	T.	1	45.19	- - - -	-	-	-
252	ϱ Serpentis	4.5	1852	T.	1	44 40.94	+21 25	- -	-	-
253	Anonymous	- -	1851	T.	1	53.14	- - - -	- -	-	-
254	Weisse XV, 864	8	- -	-	-	45 32	−14 15 42.70	1851	M.	4
255	ζ Ursæ Minoris	4	1851	T.	6	15 49 31.59	+78 15 11.80	1851	M.	1
			1852	C.	2	31.07	9.65	1852	C.	2
256	β^1 Scorpii	2	1851	T.	6	56 43.26	- - - -	- -	-	-
			1851	C.	5	43.42	−19 23 26.80	1851	C.	1
			1852	T.	2	43.28	- - - -	- -	-	-
			1852	C.	2	42.94	26.87	1852	C.	1
257	Lalande 29306	8	- -	-	-	58 38	−17 31 38.00	1852	M.	1
258	c^1 Scorpii	6	1851	T.	1	16 3 0.26	−28 1	- -	-	-
259	B. A. C., 5408	6.5	- -	-	-	- - -	−18 8 47.90	1852	M.	1
260	δ Ophiuchi	3	1851	T.	11	6 29.32	− 3 18		-	-
			1851	C.	1	29.02	− 3 18 6.27	1851	C.	1
			1852	T.	1	29.30	- - - -	- -	-	-
			1852	C.	1	29.23	15.33	1852	C.	1
261	Irene	- -	- -	-	-	- - -	−21 23 42.90	1852	M.	1
262	Lalande 29696	7	1852	C.	1	10 53.80	−18 27 35.55	1852	C.	1
			- -	-		- - -	35 20	1852	M.	1
263	A. Z., 115, 164	8	- -	-	-	- - -	+71 12 16.40	1852	M.	1
264	χ Ophiuchi	5	1851	T.	1	18 20.11	- - -	- -	-	-
265	α Scorpii	1	1851	T.	5	20 12.97	- - - -	- -	-	-
			1851	C.	4	13.13	−26 5 38.93	1851	C.	2
			1852	T.	2	12.99	- - - -	- -	-	-
			1852	C.	2	12.98	36.56		-	1
266	η Draconis	3	1851	T.	2	21 58.19	- - - -	- -	-	-
			1852	T.	1	58.06	+61 51 17.10	1852	M.	1
267	φ Ophiuchi	4.5	1851	T.	1	22 33.46	−16 16	- -	-	
268	B. A. C., 5580	7	- -	-	-	33 4	−19 37 55.50	1852	M.	1
269	Lalande 30479	8	1852	C.	1	38 7.08	−19 49 19.37	1852	C.	1
			- -	-	-	- - -	12.70	1852	M.	1
270	ε Scorpii	3	1851	T.	1	40 27.27	−34 0 56.90	1852	M.	1
271	B. A. C., 5663	6.5	- -	-	-	44 34	−20 9 34.70	1852	M.	1
272	ε Ursæ Minoris	4	1851	C.	1	17 1 31.18	+82 16 37.10	1852	M.	1
			- -	-	-	- - -	18 30.49	1852	C.	3
273	α Hercules	3.5	1851	C.	1	7 48.65	- - - -	- -	-	-
			1852	T.	2	48.47	−14 33 52.97	1852	M.	3
274	Anonymous	- -	1851	T.	1	8 13.82	- - - -	- -	-	-
275	Anonymous	- -	1851	T.	1	52.26	- - - -	- -	-	
276	υ Serpentis	4.5	- -	-	-	12 23	−12 41 23.20	1852	M.	1
277	b Ophiuchi	5	1851	T.	1	17 12.78	−24 1	- -	-	-

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278	υ Scorpii	3.5	- -	-	-	17 20 34	−37 10 13.50	1852	M.	1
279	λ Scorpii	3	- -	-	-	23 25	−36 59 19.20	1852	M.	1
	β Draconis	2.5	1852	T.	1	27 2.52	- - - -	- -	-	-
			1852	C.	1	2.41	+52 24 51.27	1852	C.	1
280	α Ophiuchi	2	1851	T.	7	58.27	- - - -	-		-
			1851	C.	3	58.37	+12 40 25.92	1851	C.	3
			1852	T.	2	58.25	25.25	1852	M.	2
			1852	C.	2	58.44	25.97	1852	C.	1
281	84 Herculis	5.5	1851	T.	1	37 12.23	+24 23	- -	-	-
282	γ Ophiuchi	4	1851	T.	2	40 22.32	+ 2 46	- -	-	-
283	Anonymous	- -	- -	-	-	40	−13 14 37.00	1852	M.	1
284	87 Herculis	6	- -	-	2	42 44.20	+25 40	- -	-	-
285	Serpentis	6	- -	-	2	47 41.36	−15 46	- -	-	-
286	γ Draconis	2	1851	T.	4	53 7.40	- - - -	- -	-	-
			1851	C.	3	7.33	+51 30 28.70	1851	C.	2
			1852	T.	1	7.54	- - - -	- -	-	-
			1852	C.	5	7.47	28.63	1852	C.	4
287	72 Ophiuchi	4	1851	T.	1	18 0 14.35	+ 9 32	- -	-	-
288	μ′ Sagittarii	3.5	1851	T.	8	4 47.50	- - - -	- -	-	-
			1851	C.	2	47.64	−21 5 36.60	1851	C.	2
			1852	T.	4	47.48	33.73	1852	M.	4
			1852	C.	4	47.69	33.23	1852	C.	2
289	Anonymous	- -	1851	T.	1	8 40.60	−23 38	-	-	-
290	Anonymous	- -	1851	T.	1	9 10.11	−23 38	- -	-	-
291	Anonymous	- -	1851	T.	1	57.76	−23 38	- -	-	-
292	Anonymous	- -	1851	T.	1	10 40.08	−23 38	- -	-	-
293	Anonymous	- -	1851	T.	1	47.36	−23 38	- -		-
294	Anonymous	- -	1851	T.	1	11 8.87	−23.38	- -	-	-
295	δ Sagittarii	3.5	1851	T.	1	23.40	−29 53	- -	-	-
296	Anonymous	- -	1851	T.	11	12 51.57	−23 38	- -	-	-
297	Anonymous	- -	1851	T.	11	52.59	−23 38	- -	-	-
298	Anonymous	- -	1851	T.	1	13 20.55	−23 38	- -	-	-
299	λ Sagittarii	4	1851	T.	1	18 42.85	- - - -	- -	-	-
			1852	T.	11	42.58	−25 29 57.60	1852	M.	1
300	δ Ursæ Minoris	3	1851	T.	0	20 43.23	- - - -	- -	-	-
			1851	C.	0	43.52	+86 35 47.99	1851	C.	7
			1852	C.	3	41.80	47.63	1852	C.	1
			- -	-	-	- - -	47.58	1852	M.	4
301	α Lyræ	1	1851	T.	1	31 51.51	+38 38 50.14	1851	M.	5
			1851	C.	7	51.59	- -	- -	-	-
			1852	T.	3	51.50	48.97	1852	M.	6
			1852	C.	5	51.48	48.71	1852	C.	1
302	28 Sagittarii	6	1851	T.	1	37 17.67	−22 32	- -	-	-
303	β Lyræ	3	1851	T.	7	44 32.52	+33 11 30.70	1851	M.	1
			1851	C.	4	32.53	31.85	1851	C.	2
			1852	T.	2	32.53	28.40	1852	M.	1
			1852	C.	2	32.54	28.50	1852	C.	2
304	A. Z., 224, 110	8	1852	T.	1	50 36.66	- - - -	- -	-	-
305	Anonymous	9	- -	-	-	- - -	−22 1 40.25	1852	M.	2
306	Anonymous	9	- -	-	-	- - -	−21 39 6 00	1852	M.	1
307	Anonymous	9	1852	T.	1	52 9.03	- - - -	- -	-	-
308	ο Sagittarii	4.5	1851	T.	1	55 41.54	- - - -	- -		-
			1852	T.	1	41.56	−21 57 24.85	1852	M.	2
309	τ Sagittarii	4	1851	T.	1	57 34.21	−27 53 4.50	1851	M.	3
310	ζ Aquilæ	5	1851	T.	3	58 30.90	- - - -	- -	-	-
			1851	C.	6	31.04	+13 38 38.80	1851	C.	3
311			1852	C.	2	30.88	38.69	1852	C.	2
312	A. Z., 224, 221,	8	1852	T.	1	59 4.07	- - - -	- -	-	-
313	π Sagittarii	4.5	1851	T.	1	19 0 50.46	−21 14 29.40	1852	M.	1
314	Madras C., 1351	7	1852	T.	1	8 20.09	- - - -	- -	-	-
315	Madras C., 8840	7	- -	-	-	- - -	−21 20 0.60	1852	M.	1
316	26 Aquilæ	6	1851	T.	1	12 32.33	− 5 41	- -	-	-
317	12 Yr. C., 1719	- -	1852	T.	1	13 47.50	−20 55 8.70	1852	M.	1
318	δ Aquilæ	3.5	1851	T.	5	17 56.00	- - - -	- -	-	
			1851	C.	6	56.24	+ 2 49 12.94	1851	C.	6

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319	δ Aquilæ		1852	C.	2	19 17 56.00	+ 2 49 11.03	1852	C.	2
320	Anonymous	- -	- -	-	-	17 40	−20 39 38.20	1852	M.	1
321	α Vulpeculæ	4	1851	T.	1	22 27.77	+24 21	- -	-	-
322	Lalande, 36878	9	1852	T.	1	23 15.94	−20 43 49.80	1852	M.	1
323	h^2 Sagittarii	4.5	1851	C.	2	27 34.60	−25 12 34.22	1851	C.	1
324	Anonymous	9	- -	-	-	29 42	−20 37 51.00	1852	M.	1
325	Lalande, 37221	7.5	1852	T.	1	30 59.79	−22 24 3.20	1852	M.	1
326	B. A. C., 6727	6.5	-	-	-	31 5	−23 45 49.87	1851	M.	3
327	Madras, 1417	7.5	-	-	-	31 19	−20 53 15.00	1852	M.	1
328	Anonymous	- -	1851	C.	1	33 6.15	−23 37 3.67	1851	C.	1
329	e^2 Sagittarii	5	1851	C.	1	33 56.15	−16 28 17.09	1851	C.	1
330	Lalande, 37507	9	- -	-	-	37	−21 52 57.60	1852	M.	1
331	γ Aquilæ	3	1851	T.	6	39 7.64	- - - -	- -	-	-
			1851	C.	3	7.67	+10 15 4.73	1851	C.	3
			1852	C.	1	7.59	3.40	1852	M.	1
332	α Aquilæ	1.5	1851	T.	8	43 27.78	+ 8 28 34.67	1851	M.	6
			1851	C.	6	27.86	36.99	1851	C.	2
			1852	T.	3	27.79	32.30	1852	M.	3
			1852	C.	1	27.80	- - - -	- -	-	-
333	β Aquilæ	3.5	1851	T.	7	47 56.61	+ 6 2 9.05	1851	M.	2
			1851	C.	6	56.72	8.10	1851	C.	2
			1852	T.	1	56.60	8.80	1852	M.	1
			1852	C.	1	56.65	- - - -	- -	-	-
334	B. A. C., 6850	7	- -	-	-	50 40	−22 36 47.20	1852	M.	1
335	Lalande, 38164	8	- -	-	-	53 13	−19 30 23.10	1852	M.	1
336	Lalande, 38290	8.5	- -	-	-	56 17	−19 11 33.40	1852	M.	1
337	B. A. C., 6903	7	- -	-	-	59 32	−19 13 15.30	1852	M.	1
338	θ Aquilæ	3.5	1851	T.	1	20 3 33.70	− 1 15	- -		-
339	α^1 Capricorni	4	1852	C.	2	9 19.69	−12 58 5.32	1852	C.	1
340	α^2 Capricorni	3	1851	T.	5	9 43.63	−13 0 20.50	1851	M.	2
			1851	C.	2	43.82	21.63	1851	C.	5
			1852	T.	1	43.69	21.20	1852	M.	2
			1852	C.	2	43.66	22.01	1852	C.	2
341	λ Ursæ Minoris	5	- -	-	-	13 1	+88 50 37.80	1851	M.	1
342	39 Cygni	5	1851	T.	1	17 51.99	+31 4	- -	-	-
343	69 Aquilæ	5	1851	T.	1	21 48.44	− 3 22	- -	-	
344	ε Delphini	4	1851	T.	1	26 2.69	+10 47	- -	-	-
345	α Cygni	1	1851	T.	3	36 19.22	+44 44 48.90	1851	M.	1
			1851	C.	3	19.21	47.54	1851	C.	2
			1852	T.	2	18.86	47.85	1852	M.	2
			1852	C.	3	19.07	47.71	1852	C.	3
346	ψ Capricorni	4.5	1851	C.	1	37 12.55	−25 48 22.29	1851	C.	1
347	3 Aquarii	4	1851	T.	1	39 49.04	− 5 34	- -	-	
348	B. A. C., 7255	6	1851	T.	1	48 9.87	+13 57	- -	-	-
349	4 Equulei	6	1851	T.	1	58 0.57	+ 5 22	- -	-	-
350	61^1 Cygni	5.5	1851	C.	1	21 0 10.91	+38 0 55.41	1851	M.	1
			1852	T.	3	10.52	52.00	1852	M.	3
			1852	C.	3	10.57	53.70	1852	C.	3
351	61^2 Cygni	6	1851	C.	1	1 12.17	- - - -	- -	-	-
352	ζ Cygni	3	1851	T.	2	6 33.17	+29 36 51.20	1851	M.	1
			1851	C.	2	33.17	- - -	- -		-
			1852	T.	2	33.10	49.70	1852	M.	3
			1852	C.	1	33.07	53.74	1852	C.	1
353	α Cephei	3	1851	T.	2	14 59.60	- - - -	- -	-	-
			1851	C.	3	59.93	- - -	- -	-	-
			1852	T.	1	59.09	- - - -	- -	-	-
			1852	C.	2	59.57	+61 57 4.30	1852	C.	2
354	5 Piscis Australis	6	-	-	-	20 5	−31 53 18.03	1851	M.	7
355	6 Piscis Australis	6	1852	T.	2	23 9.14	−34 36	-	-	
			-	-	-	23 9	−34 36 8.75	1851	M.	4
356	β Aquarii	3	1852	T.	2	39.54	- - - -	- -	-	-
			1851	C.	3	39.67	− 6 13 42.13	1851	C.	2
			1852	T.	3	39.52	40.83	1852	M.	6
			1852	C.	3	39.51	39.47	1852	C.	2
357	β Cephei	3	1851	C.	1	26 41.99	- - - -	- -	-	-
			1852	C.	3	42.56	+69 54 7.63	- - -	-	3

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358	γ Capricorni	4	1851	C.	1	21 31 46.31	−17 20	- -	-	-
359	ε Pegasi	2.5	1851	T.	7	36 49.06	+ 9 11 23.24	1851	M.	5
			1851	C.	4	49.32	25.01	1851	C.	4
			1852	T.	3	49.09	23.70	1852	M.	8
			1852	C.	2	49.08	23.89	1852	C.	1
360	δ Capricorni	3.5	1851	C.	1	38 45.37	−16 48	- -	-	-
361	Anonymous	- -	1852	C.	1	45.50	−13 5 30.29	1852	C.	1
362	16 Pegasi	5.5	1851	T.	1	46 14.33	+25 13	- -	-	-
363	Anonymous	-	- -	-	-	48 12	−21 28	1852	M.	-
364	Anonymous	- -	- -	-	-	49 55	−21 26 55.85	1852	M.	2
365	Lalande 42813	9	- -	-	-	21 50 41	−20 20 16.85	1852	M.	2
366	Anonymous	- -	- -	-	-	50 58 50	−20 42 56.90	1852	M.	1
367	28 Aquarii	6	1851	T.	1	53 24.39	- - - -	- -	-	-
368	Lalande, 43040	8	- -	-	-	57 33	−19 23 28.70	1852	M.	1
369	Weisse XXI, 1333	9	- -	-	-	57 35	−10 37 19.60	1852	M.	1
370	α Aquarii	3	1851	T.	7	58 4.64	− 1 2 49.23	1851	M.	3
			1851	C.	1	4.74	51.15	1851	C.	1
			1852	C.	1	4.56	44.89	1852	C.	1
			- -	-	-	- -	46.40	1852	M.	3
371	α Gruis	2	1851	T.	1	58 45.20	- - - -	- -	-	-
			1851	C.	6	45.55	−47 41 10.51	1851	C.	5
			1852	C.	6	45.56	40 59.49	1852	C.	4
372	Lalande, 43106	8	- -	-	-	59 29	−22 19 19.32	1852	M.	1
373	Weisse XXI, 1375	9	- -	-	-	21 59 39	− 9 54 41.80	1852	M.	1
374	15 Piscis Australis	5.5	1851	T.	2	22 1 20.51	−33 16 56.36	1851	M.	9
375	Lalande, 43288	9.5	- -	-	-	3 16	−18 45 54.53	1852	M.	3
376	Pegasi (B. A. C., 7742)	6	1851	T.	2	4 36.74	+15 18	- -	-	-
377	λ Australis	6	1851	T.	1	5 47.95	−28 30 28.40	1852	M.	3
			1851	C.	1	48.38	31.91	1851	C.	1
			1852	C.	1	48.33	33.19	1852	C.	1
378	δ Aquarii	4.5	1851	T.	1	8 54.85	− 8 31	- -	-	-
			1851	C.	1	55.43	- - - -	- -	-	-
379	44 Aquarii	6	1851	T.	1	9 16.51	− 6 8	- -	-	-
380	ϱ Aquarii	5.5	1851	T.	1	12 18.14	− 8 34	- -	-	-
381	47 Aquarii	5	1851	T.	1	13 19.68	−22 20	- -	-	-
382	31 Pegasi	4.5	1851	T.	2	14 8.05	+11 27	- -	-	-
383	Anonymous	9	- -	-	-	20 37	−16 25 45.60	1852	M.	1
384	Anonymous	- -	- -	-	-	22 23	−15 19 55.30	1852	M.	1
385	σ Aquarii	5	1851	C.	1	22 42.77	−11 26	- -	-	-
386	60 Aquarii	6.5	1851	T.	2	26 18.75	− 2 20	- -	-	-
387	κ Aquarii	6	1851	T.	1	29 59.23	− 5 0	- -	-	-
388	Weisse, XXII, 640	9	1852	C.	1	31 31.42	−14 50 11.85	1852	C.	1
			- -	-	-	- - -	−14 50 20.70	1852	M.	1
389	Weisse, XXII, 644	8	1852	C.	1	22 31 34.28	−14 50 43.22	- -	-	1
			- -	-	-	- - -	−14 50 43.00	1852	M.	2
390	ζ Pegasi	3	1851	T.	3	33 58.86	- - - -	- -	-	-
			1851	C.	2	59.13	- - - -	- -	-	-
			1852	T.	1	58.85	+10 3 1.07	1852	M.	7
			1852	C.	2	58.98	1.85	1852	C.	1
			1851	T.	2	34 0.74	- - - -	- -	-	-
391	Anonymous	- -	1852	C.	1	52.20	−22 26 24.11	1852	C.	1
392	Anonymous	- -	1852	C.	1	35 58.38	−22 25 2.39	1852	C.	1
393	τ^2 Aquarii	5.5	1851	T.	2	41 38.73	−14 23	- -	-	-
394	Anonymous	- -	1852	T.	1	42 45.50	- - - -	- -	-	-
395	μ Pegasi	4	1851	T.	1	46.08	+23 68	- -	-	-
396	Anonymous	- -	- -	-	-	- - -	− 8 6 0.70	1852	M.	1
397	σ Pegasi	5.5	1851	T.	1	44 48.09	+ 9 2	- -	-	-
398	α Pisces Australis	1	1851	T.	8	49 21.00	−30 24 57.72	1851	M.	4
			1851	C.	12	21.24	57.44	1851	C.	6
			1852	T.	1	21.02	57.51	1852	M.	9
			1852	C.	4	20.96	25 0.24	1852	C.	1
399	3 Piscium	6	1851	T.	1	52 56.36	− 0 37	- -	-	-
400	Weisse XXII, 1150	9	- -	-	-	54 31	−12 7 1.20	1852	M.	1
401	Weisse XXII, 1156	8	- -	-	-	54 39	−12 4 12.00	1852	M.	1
402	Lalande, 45049	6	- -	-	-	54 42	−21 40 16.20	- -	-	1

Number.	STAR.	Mag.	Y.	In	O.	R.A. 1850.	DEC. 1850.	Y.	In.	O.
						h. m. s.	° ′ ″			
403	α Pegasi	2	1851	T.	13	22 57 17.46	+14 23 55.05	1851	M.	2
			1851	C.	10	17.55	57.94	1851	C.	6
			1852	T.	1	17.44	58.90	1852	M.	1
			1852	C.	5	17.45	24 0.94	1852	C.	2
404	Weisse XXII, 1232	8	1852	C.	1	58 3.25	−11 14 43.73	1852	C.	1
			- -	-	-	- - -	45.20	1852	M.	1
405	57 Pegasi	5.5	1851	T.	1	23 1 57.27	+ 7 51	- -	-	-
406	φ Aquarii	5	1851	T.	2	6 33.08	− 6 51	- -	-	-
407	Weisse XXIII, 85	9	- -	-	-	5 40	−10 44 42.55	1852	M.	2
408	Lalande, 45473	9	- -	-	-	6 34	−19 41 20.50	1852	M.	1
409	61 Pegasi	6	1851	T.	1	8 27.20	+27 25	- -	-	-
410	χ Aquarii	5.5	1851	T.	1	9 4.33	− 8 32	- -	-	-
411	ψ^3 Aquarii	5	1851	T.	3	11 9.33	−10 25	- -	-	
412	b Piscium	6	1851	T.	1	12 42.13	+ 4 33	- -	-	-
413	Lalande, 45704	8	1852	C.	1	13 2.69	−19 21 47.58	1852	C.	1
			1852	C.	1	2.71	41.49	1852	C.	1
414	τ Pegasi	5	1851	T.	1	13 13.04	+22 55	- -		-
415	Pegasi (B. A. C., 8146)	6	1851	T.	1	15 12.67	+20 0	- -	-	-
416	66 Pegasi	6	1851	T.	1	30.86	+11 29	- -	-	-
417	B. A. C., 8160	5	1852	C.	1	17 54.03	+22 34 46.27	1852	C.	1
418	9 Piscium	6	1851	T.	1	19 33.74	+ 0 17	- -	-	-
419	θ Piscium	5	- -	-		20 21	+ 5 33 29.60	1852	M.	2
420	Weisse XXIII, 458	8.5	- -	-	-	22 44	+ 5 35 36.50	1852	M.	1
421	100 b^3 Aquarii	6	1851	T.	1	23 56.74	−22 11 41.82	1851	M.	5
422	B. A. C., 8196	7.5	- -	-	-	23 50	−22 4 31.50	1851	M.	2
423	1636 Santini	7.5	- -	-	-	24 34	+ 6 15 38.90	1852	M.	1
424	15 Piscium	6.5	1851	T.	1	27 48.51	+ 0 29	- -	-	-
425	ι Piscium	4.5	1851	T.	11	32 14.13	- - - -	- -	-	-
			1851	C.	4	14.46	+ 4 48 48.85	1851	C.	5
			1852	C.	3	14.23	50.79	1852	C.	2
			- -	-	-	- - -	+ 4 48 51.48	1852	M.	6
			1851	T.	1	14.22	- - - -	- -	-	-
426	γ Cephei	3	1851	C.	4	33 13.72	- - - -	- -	-	-
			1852	C.	1	14.37	+76 47 2.18	1852	C.	1
427	19 Piscium	6	1851	T.	1	38 43.71	+ 2 29	- -	-	-
428	Weisse XXIII, 899	-	- -	-	-	44 25	+ 6 30 11.60	1851	M.	1
429	B. A. C., 8311	6.5	1851	T.	2	47 5.93	− 0 43	- -	-	-
430	26 Piscium	6	1851	T.	2	27.35	+ 6 14	- -	-	-
431	27 Piscium	5	1851	T.	1	50 59.53	- - - -	- -	-	-
			1852	C.	1	59.46	− 4 23 10.81	1852	C.	1
432	ω Piscium	4.5	- -	-	-	51 36	+ 6 2 1.20	1851	M.	1
433	29 Piscium	5	1851	T.	1	54 8.19	− 3 51	- -	-	-
434	c^2 Piscium	6	1851	T.	2	49.87	+ 7 39	- -	-	-
435	33 Piscium	5	1851	T.	1	57 39.33	− 6 32 48.07	1851	C.	1

ERRATA.

Page.	No.					
9	25	The star is doubtless Weisse 2 IX, 618, 619; the minute of transit being recorded as 22m. instead of 28m. This assumption is made in the tables of results.				
			h. m. s.		° ′ ″	
73	5	for	83 25 14.81	read	83 26 10.81.	
73	5	"	24 31 35.56	"	24 32 31.56.	
Form 79 to 141		In headings of columns "Corrections in Dec." for m. s. read ′ ″				
86	19	Mean of transits	for 25m.	read	23m.	
87	13	Circle reading	" 36.″76	"	26.″76.	
87	13	Observed Declination	" 57.″51	"	47.″51.	
87	19	Observed R. A.	" 27m.	"	26m.	
189		Date of last group omitted, should be June 24.				
529		Date for Oct. 2 read Oct. 15.				
151	below	Victoria — Weisse I, 973	for	+ 11′ 12″.79	read	— 11′ 12″.79
155	"	Irene — Weisse I, 732	"	+ 20 28.88	"	— 20 28.88
			"	+ .42	"	— .42
162	"	Egeria — B. Z., 332, 45	"	— 0 17.69	"	+ 0 17.69
170	"	Egeria — 1104 Rumker	"	— 2 25.76	"	+ 2 25.76
			"	— .20	"	+ .20
186	"	Astrea — Weisse XIV, 668		Change sign of Δ Mic. throughout.		
			"	+ 4 58.57	read	— 4 58.57
			"	+ .18	"	— .18
187	"	Astrea — Weisse XIV, 503	"	+ 9 33.36	"	— 9 33.36
			"	+ .31	"	— .31
198	at	(* 6 W.)	"	— 17° 2′ 45″.27	"	— 16° 53′ 34″.18
199	below	Irene — 28453 Lalande	"	— 1 26.42	"	+ 1 26.42
219	"	Comet — Weisse III, 62		Change sign of Δ Mic. throughout.		
			"	— 6 26.68	read	+ 6 26.68
			"	— .26	"	+ .26
			"	+ 8 6 30.43	"	+ 8 1 30.43
225	"	Iris — Weisse XXIII, 685		Change sign of Δ Mic. throughout		
			"	+ 3 39.09	read	— 3 39.09
			"	+ .08	"	— .08
260	"	Hygea — 1177 Rumker	"	— 9 35.32	"	+ 9 35.32
			"	— .24	"	+ .24
241	"	Hygea — Weisse XXIII, 1111	"	+ 14 42.03	"	— 14 42.03
			"	+ .38	"	— .38
251	"	Eunomia — * W. 22	"	— 5 15.03	"	+ 5 15.03
			"	— .56	"	+ .56
				m. s.		m. s.
440	"	Parthenope — Weisse II, 305	"	+ 0 4.74	"	+ 2 11.54
441	"	Eunomia — Weisse II, 1394	"	+ 2 58.82	"	— 2 58.52
			"	+ .49	"	— .49
442	"	Egeria — B. Z., 412, 16	"	+ 3′ 59″.40	"	— 3′ 59″.40
			"	+ .09	"	— .09
453	"	Victoria — Weisse VI, 551	"	— 3 22.48	"	+ 3 22.48
			"	— .07	"	+ .07
454	"	Victoria — Weisse VII, 816	"	— 2 44.04	"	+ 2 44.04

Page.							
				′ ″		′ ″
462	below	Comet — 1671 Santini	for	− 2 45.74	read	+ 2 45.74
			"	− .16	"	+ .16
463	"	Comet — 31 Santini	"	+ 11 41.28	"	− 11 41.28
			"	+ .98	"	− .98
475	"	Psyche — 3172 Rumker	"	+ 1 34.55	"	− 1 34.55
			"	+ .09	"	− .09
476	"	Psyche — Weisse X, 316	"	− 5 51.86	"	+ 5 51.86
			"	− .25	"	+ .25
479	"	Thetis — 3966 Rumker	"	− 2 47.54	"	+ 2 47.54
			"	− .10	"	+ .10
482	"	Thetis — 24193 Lalande		Change signs of Δ α and Δ Mie.		
				m. s.		m. s.
			"	+ 1 11.99	read	− 1 11.99
			"	+ .19	"	− .19
				′ ″		′ ″
			"	+ 7 10.56	"	− 7 10.56
			"	+ .34	"	− .34
495	"	Melpomene — Weisse XVII, 834		Change sign of Δ Mie. throughout.		
			"	+ 6 55.86	read	− 6 55.86
			"	+ .30	"	− .30
496	"	Melpomene — Weisse XVII, 834	"	+ 7 8.46	"	− 7 8.46
			"	+ .23	"	− .23
500	"	Melpomene — Weisse XVII, 857		Weisse XVII, 846		
				Change sign of Δ Mie. throughout.		
			"	− 3 44.78	read	+ 3 44.78
			"	− .18	"	+ .18
505	"	Melpomene — 32986 Lalande		Change sign of Δ Mie. throughout.		
			"	− 5 10.71	read	+ 5 10.71
			"	− .27	"	+ .27
506	"	Melpomene — 33178 Lalande	"	+ 7 9.86	"	− 7 9.86
			"	+ .83	"	− .83
509	at	Lalande, 33694	"	− 17 45 20.77	"	− 17 48 20.77
523	"	B. A. C., 7249	"	− 18 28 46.62	"	− 18 29 46.62
526	"	Irene — 45704 Lalande	"	+ 3 53.31	"	− 3 53.31
			"	+ .59	"	− .59
573	"	B. A. C., 2418	"	B. A. C., 2418	"	Anonymous.
615	"	Metis, June 4	"	+ 17 16 47.31	"	+ 17 16 30.52
616	"	Astrea, April 29	"	− 5 40 16.73	"	− 5 50 14.23
616	"	Astrea, May 6	"	− 5 1 5.23	"	− 5 20 12.51
619	"	Comet 1851, I, Aug. 6	"	+ 8 0 8.98	"	+ 8 8 2.86
620	"	Iris, Oct. 31	"	+ 7 8 50.29	"	+ 7 3 35.63
622	"	Hygea, Nov. 7	"	+ 4 3 37.00	"	+ 4 3 38.14
623	"	Eunomia, Oct. 23	"	− 20 31 44.00	"	− 20 31 42.71
				h. m. s.		h. m. s.
626	"	Parthenope, Feb. 14	"	2 22 3.57	"	2 22 0.54
628	"	Victoria, Feb. 8	"	+ 10 50 24.74	"	+ 10 57 11.84

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